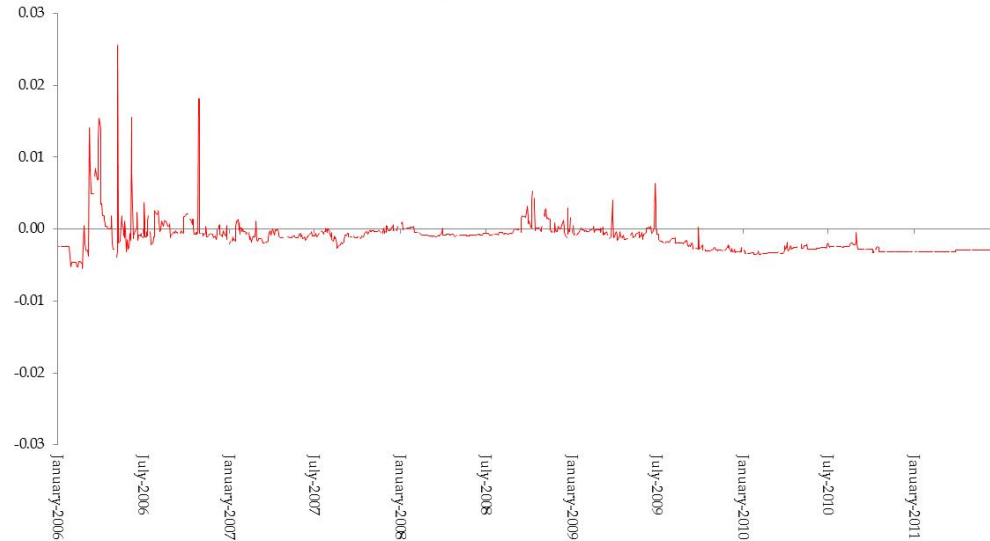


FIGURE 9

**Contribution of Shinkin Central Bank to the Intraday Coefficient of
Variation of 3 Month EuroYen TIBOR Quotes**

January 2006 -- June 2011



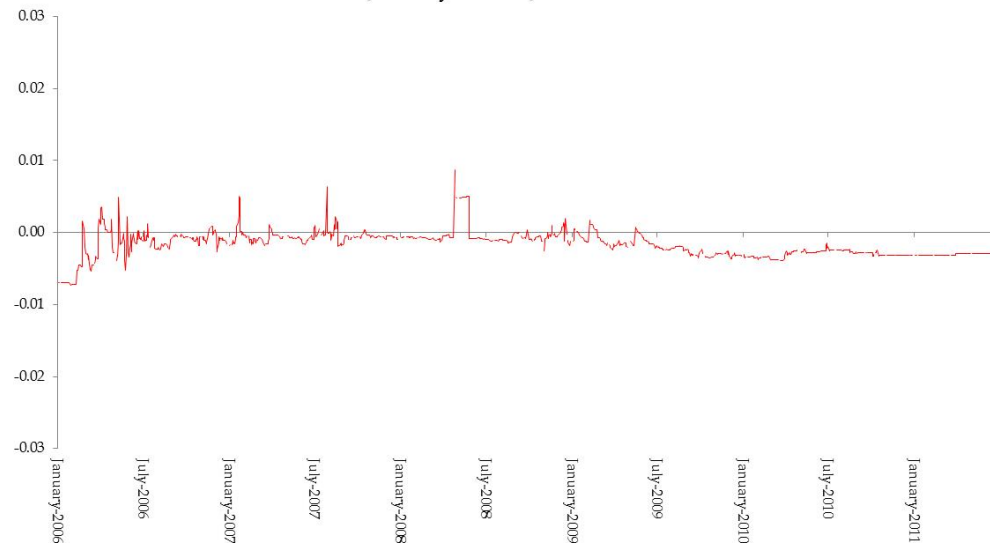
Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Shinkin Central Bank. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Shinkin Central Bank is computed similarly but excludes Shinkin Central Bank's quotes.

FIGURE 10

**Contribution of Shoko Chukin Bank to the Intraday Coefficient of
Variation of 3 Month EuroYen TIBOR Quotes**

January 2006 -- June 2011

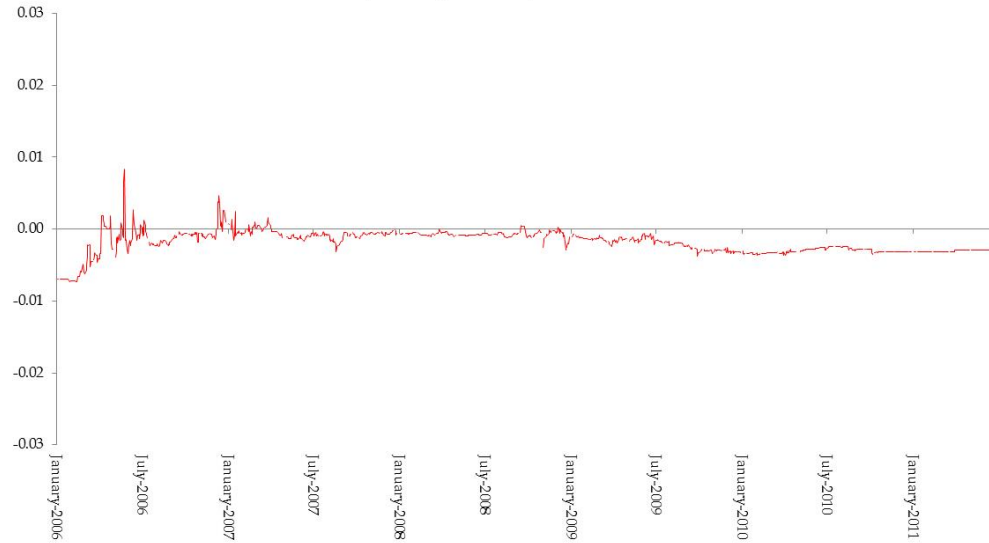


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Shoko Chukin Bank. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Shoko Chukin Bank is computed similarly but excludes Shoko Chukin Bank's quotes.

FIGURE 11

**Contribution of Sumitomo Mitsui Banking Corp to the Intraday
Coefficient of Variation of 3 Month EuroYen TIBOR Quotes**
January 2006 -- June 2011

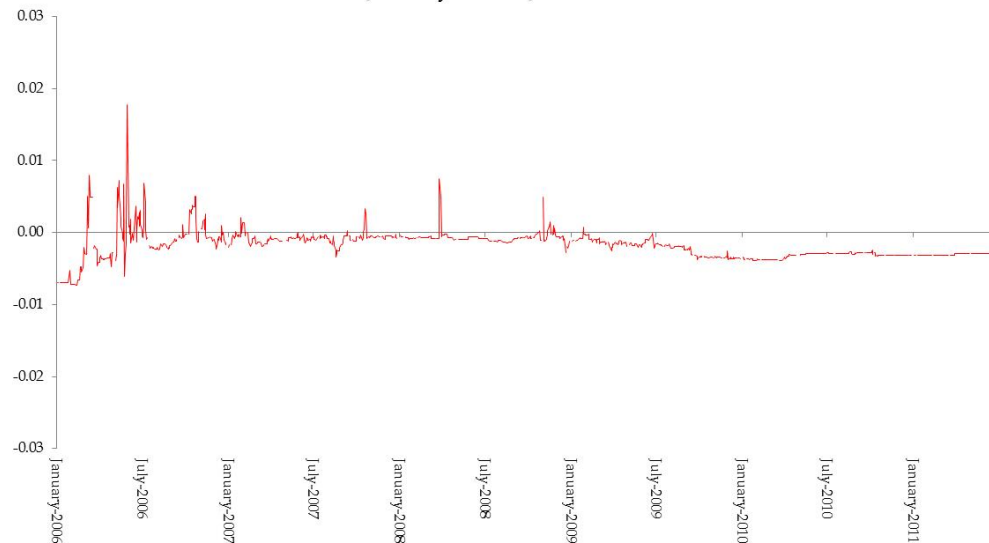


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Sumitomo Mitsui Banking Corp. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Sumitomo Mitsui Banking Corp is computed similarly but excludes Sumitomo Mitsui Banking Corp's quotes.

FIGURE 12

**Contribution of Sumitomo Trust & Banking to the Intraday Coefficient of
Variation of 3 Month EuroYen TIBOR Quotes**
January 2006 -- June 2011

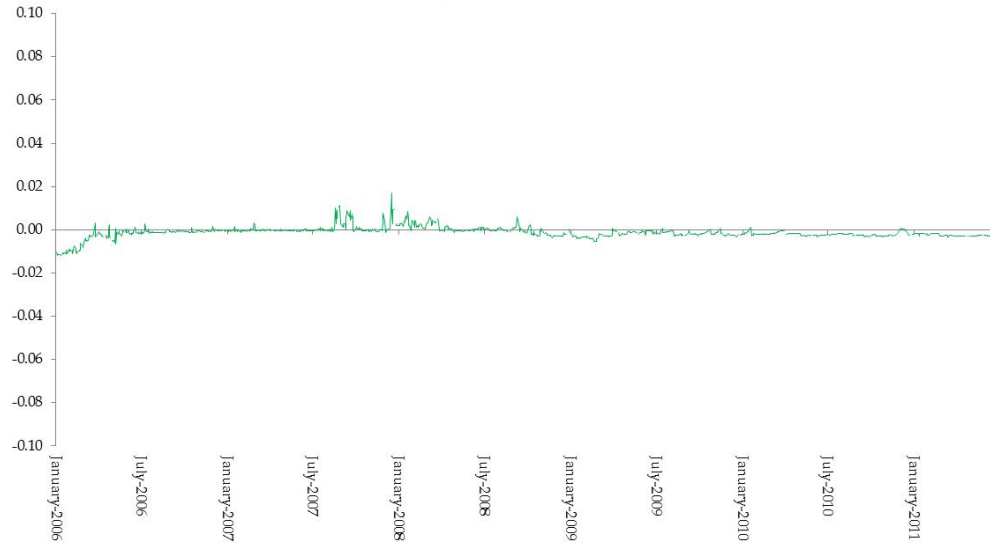


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Sumitomo Trust & Banking. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Sumitomo Trust & Banking is computed similarly but excludes Sumitomo Trust & Banking's quotes.

FIGURE 13

**Contribution of Bank of Tokyo-Mitsubishi to the Intraday Coefficient of
Variation of 3 Month Yen LIBOR Quotes**
January 2006 -- June 2011

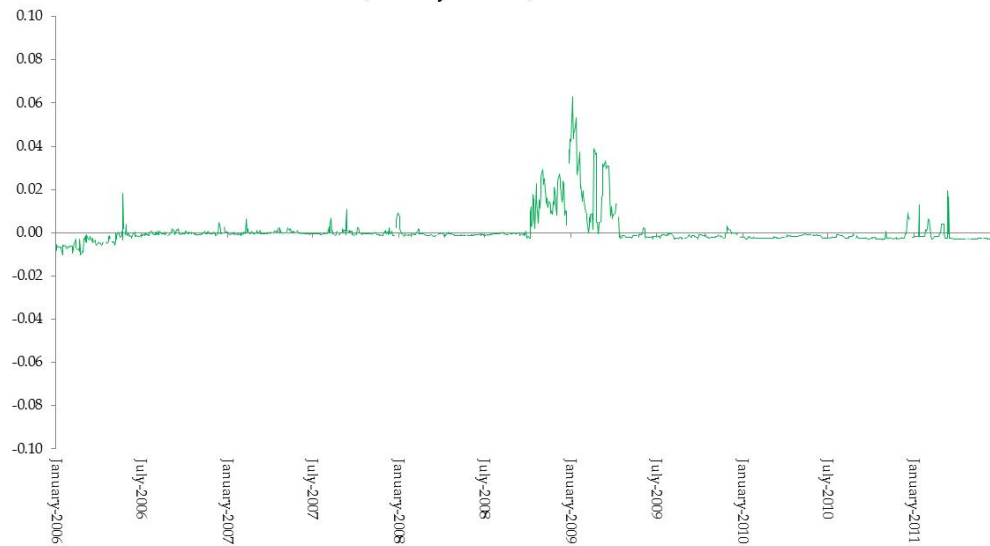


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Bank of Tokyo-Mitsubishi. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Bank of Tokyo-Mitsubishi is computed similarly but excludes Bank of Tokyo-Mitsubishi's quotes.

FIGURE 14

**Contribution of Barclays to the Intraday Coefficient of Variation of 3
Month Yen LIBOR Quotes**
January 2006 -- June 2011

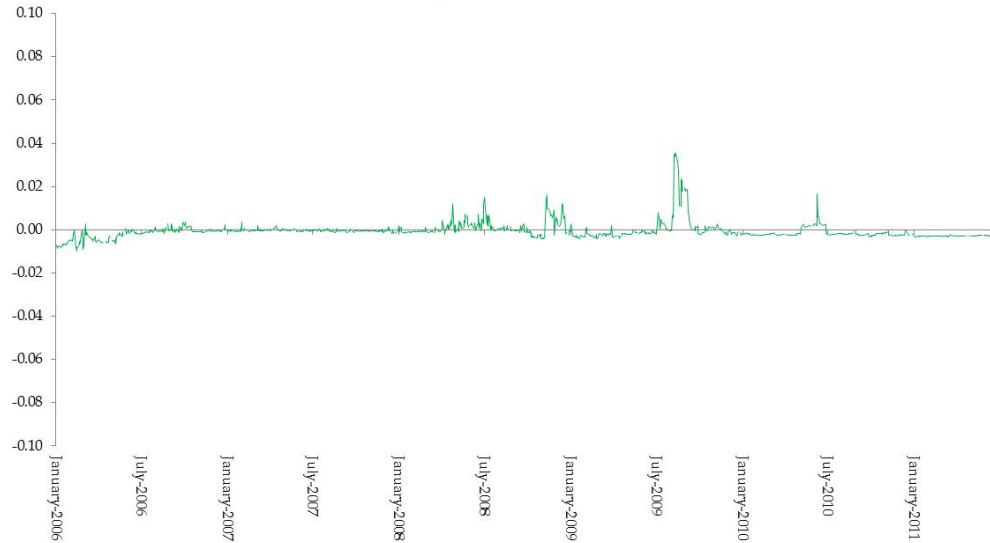


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Barclays. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Barclays is computed similarly but excludes Barclays' quotes.

FIGURE 15

**Contribution of HSBC to the Intraday Coefficient of Variation of 3 Month
Yen LIBOR Quotes**
January 2006 -- June 2011

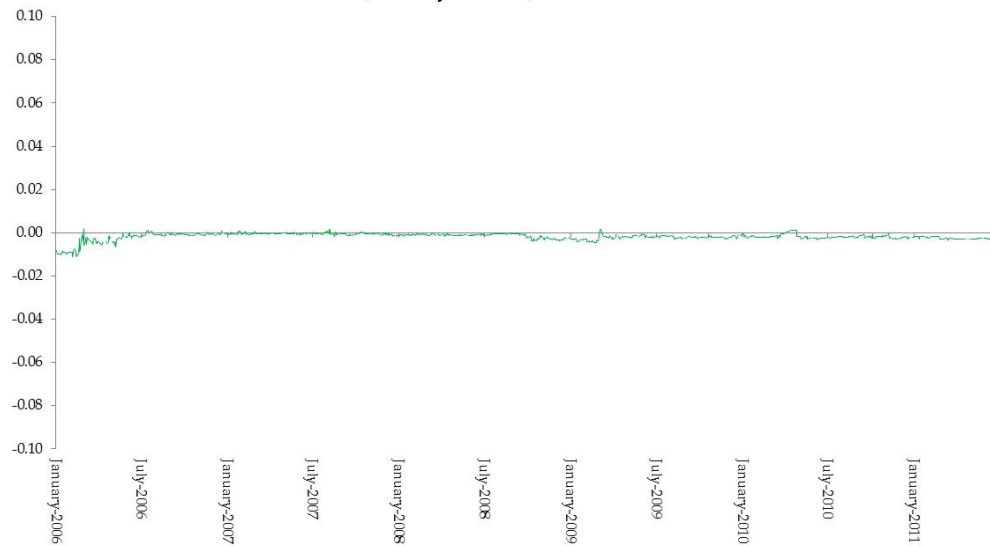


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding HSBC. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding HSBC is computed similarly but excludes HSBC's quotes.

FIGURE 16

**Contribution of Mizuho Corporate Bank to the Intraday Coefficient of
Variation of 3 Month Yen LIBOR Quotes**
January 2006 -- June 2011

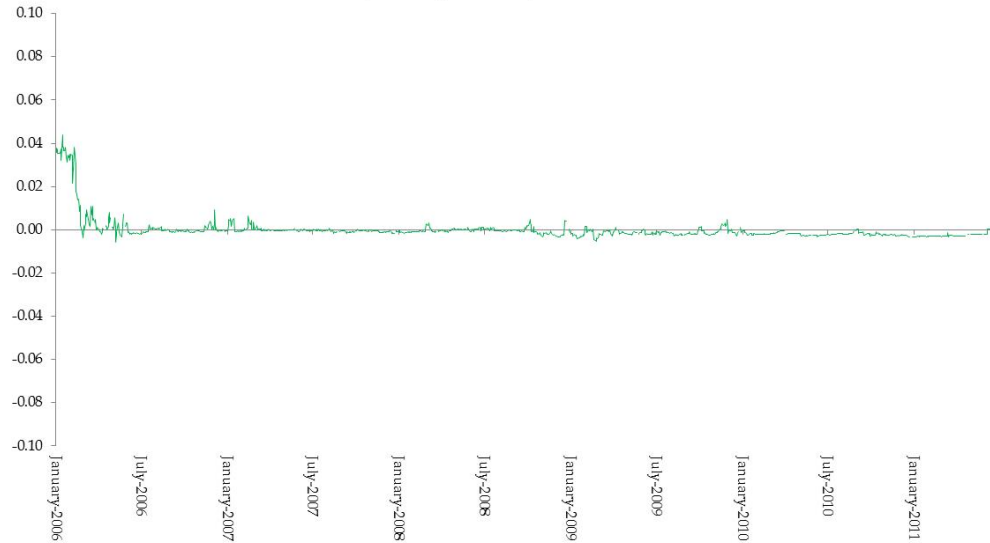


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Mizuho Corporate Bank. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Mizuho Corporate Bank is computed similarly but excludes Mizuho Corporate Bank's quotes.

FIGURE 17

**Contribution of Norinchukin Bank to the Intraday Coefficient of
Variation of 3 Month Yen LIBOR Quotes**
January 2006 -- June 2011

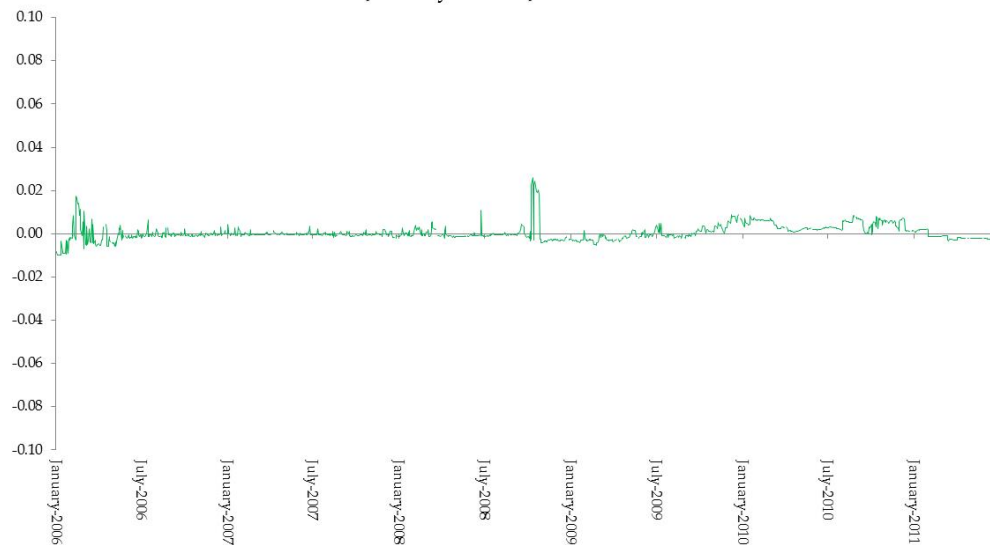


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Norinchukin Bank. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Norinchukin Bank is computed similarly but excludes Norinchukin Bank's quotes.

FIGURE 18

**Contribution of Rabobank to the Intraday Coefficient of Variation of 3
Month Yen LIBOR Quotes**
January 2006 -- June 2011

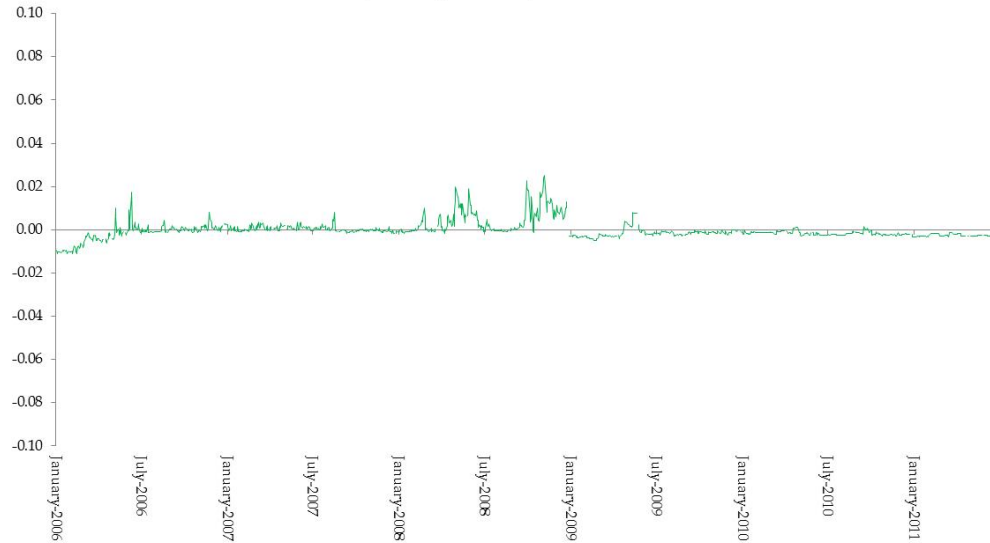


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Rabobank. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Rabobank is computed similarly but excludes Rabobank's quotes.

FIGURE 19

**Contribution of Societe Generale to the Intraday Coefficient of Variation
of 3 Month Yen LIBOR Quotes**
January 2006 -- June 2011

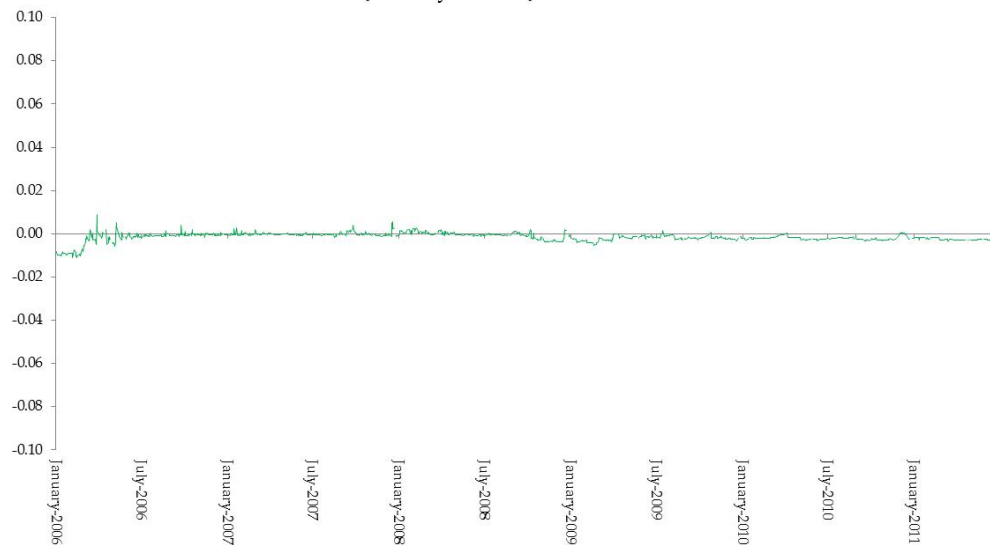


Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Societe Generale. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Societe Generale is computed similarly but excludes Societe Generale's quotes.

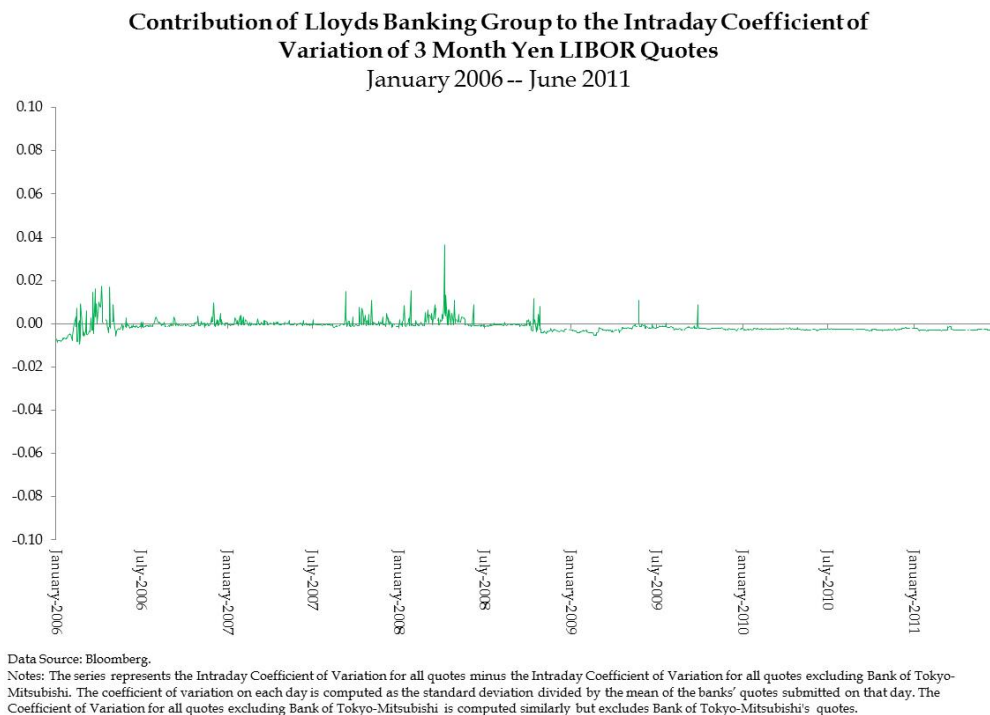
FIGURE 20

**Contribution of Sumitomo Mitsui Banking Corp to the Intraday
Coefficient of Variation of 3 Month Yen LIBOR Quotes**
January 2006 -- June 2011



Data Source: Bloomberg.

Notes: The series represents the Intraday Coefficient of Variation for all quotes minus the Intraday Coefficient of Variation for all quotes excluding Sumitomo Mitsui Banking Corp. The coefficient of variation on each day is computed as the standard deviation divided by the mean of the banks' quotes submitted on that day. The Coefficient of Variation for all quotes excluding Sumitomo Mitsui Banking Corp is computed similarly but excludes Sumitomo Mitsui Banking Corp's quotes.

FIGURE 21

VII. Plaintiff's Economic Analyses Show That Yen-LIBOR Impacted Euroyen TIBOR During the Class Period

839. Plaintiff's economic analyses show that Yen-LIBOR impacted Euroyen TIBOR prices during the Class Period. In particular, Plaintiff's economic analyses show that price discovery in the Euroyen market begins with the daily setting of Yen-LIBOR such that movements in Yen-LIBOR, specifically yesterday's Yen-LIBOR fix, impact changes in the following day's Euroyen TIBOR fix. As a result, the reporting of false and inaccurate Yen-LIBOR rates can (and did) cause artificial Euroyen TIBOR rates during the Class Period.

840. There is one active financial market for Euroyen-based derivatives and that market uses Euroyen TIBOR and Yen-LIBOR interchangeably. This highly synchronized and highly correlated relationship between Euroyen TIBOR and Yen-LIBOR is expected because "[i]n theory, the two rates should be very similar because they are both used as a reference for borrowing the same currency. ... Credit-market specialists agree that Tibor and yen Libor rates

should be similar....” Financial Times, February 6, 2013, *Japanese Banks Accused of Tibor Fixing*. As noted in ¶¶ 868-70 and Figures 60 and 61, during the 36-month period of January 2003 through December 2005, the average spread of Euroyen TIBOR with respect to Yen-LIBOR was a positive 0.024. Historical research indicates that integration in money markets is especially strong and that the Tokyo and London markets are almost completely integrated and the correlation between rates in similar currencies (including Yen) is extremely high.³⁴² Even during crises, when liquidity and other risks widened observed spreads due to liquidity factors, co-movement between the rates remained very high (correlation of changes remained high).³⁴³ Various studies³⁴⁴ show movement correlations as high as 99% even when there existed a spread between the two Euroyen rates.

841. Due to the integration and correlation of Yen money markets, traders, investors and other users of Yen interest rates use either Euroyen TIBOR or Yen-LIBOR interchangeably depending on the time of day as the reference to fix or set the rate underlying their Euroyen derivative. During New York and London trading hours, investors and traders generally use the Yen-LIBOR rate as the reference to fix or set the interest rate and during Tokyo trading hours, traders and investors will generally use Euroyen TIBOR. The choice between Euroyen TIBOR and Yen-LIBOR is driven by when in the trading day the reference is made. Traders and investors have no expectation of a systematic difference between Euroyen TIBOR and Yen-LIBOR and investors and traders in Euroyen derivatives are indifferent to the underlying rate

³⁴² Fukuda, Shin-ichi “Financial Crises and Risk Premiums in International Interbank Markets” Policy Research Institute, Ministry of Finance, Japan, Public Policy Review, Vol. 9, No. 1, January 2013.

³⁴³ Fukuda, Shin-ichi “Regional and Global Short-term Financial Integration in Asia: Evidence From the Interbank Markets Under The Crises” in M. Devereux, P.R. Lane, C.Y. Park, S.J. Wei eds., The Dynamics of Asian Financial Integration : Fact and Analytics, Routledge, 2011.

³⁴⁴ Batten, Jonathan “Japanese Credit Risk and Trading Opportunities in the Euroyen Market” 2000.

(Euroyen TIBOR or Yen-LIBOR) as long as both parties to the trade agree to the reference source. This indifference by traders and investors to use Euroyen TIBOR and Yen-LIBOR in a transaction exists because during the Class Period there existed a stable and continuous relationship and price transmission mechanism between Yen-LIBOR and Euroyen TIBOR. Without this relationship, there would have been systematic opportunities for risk free arbitrage between the two rates, a situation which did not exist. Arbitrage is the ability of traders and investors to take advantage of the same asset trading at different prices in different markets in a risk free manner. Traders and investors would naturally seek to erase opportunities for arbitrage and, in effect, arbitrage is kept out of markets by “reflective trading,” *e.g.* quoted prices for the same asset moving in tandem across different markets. As such, arbitrage opportunities are prevented before they can even exist. In particular, market analysts have noted that even when there existed a spread between Yen-LIBOR and Euroyen TIBOR, it was a) systematically very low and b) very stable.

842. Historical analysis also shows that the Yen-LIBOR rate fix leads and indicates the Euroyen TIBOR fix in the following trading session and that this relationship is very stable. Furthermore, trading in Euroyen TIBOR futures is also driven by the Yen-LIBOR rate fix directly. Banks, investors and traders are fully cognizant of this relationship and rely on it.

843. When futures exchanges are open at the same time, similar exchange traded futures contracts will exhibit similar pricing patterns (after accounting for tax or other “frictions”) that erase the arbitrage opportunities. As such, the prices of exchange traded futures contracts move in tandem. In the case where there is not a futures markets, implied forward markets exist, such as those for currency. Interest rate futures on Euroyen TIBOR and interest rate forwards on Yen-LIBOR trade reflective of the other, while the two markets are open, in

order to prevent arbitrage from taking place between the two contracts. There is an active Yen-LIBOR forward market (particularly in foreign exchange forwards) that results in a seamless transmission of the Yen-LIBOR rate into Euroyen TIBOR and Euroyen TIBOR futures.

Otherwise, traders and investors would be able to extract risk free returns between the two contracts. The absence of an active futures contract for Yen-LIBOR means active trading in Euroyen money market rates is dominated by Euroyen TIBOR futures which directly reflect and follow Yen-LIBOR. A three-month Yen-LIBOR futures contract exists, but it is not used by the market, reinforcing the fact that the markets view the Euroyen TIBOR futures market as completely integrated and interlocked with Yen-LIBOR such that the Euroyen TIBOR futures market is used as a hedging tool for Yen-LIBOR exposure.

844. Changes in Yen-LIBOR will be immediately reflected in Euroyen TIBOR rates (futures, etc.) once Euroyen TIBOR opens (after Yen-LIBOR trading closes) and the subsequent Euroyen TIBOR JBA rate. If they did not, there would be opportunities for arbitrage. Since the foreign exchange forwards reflect Yen-LIBOR, Yen-LIBOR rates are seamlessly transmitted to Euroyen TIBOR despite the time difference that exists between the London and Tokyo markets (currencies trade between the two market opening times). Because Yen foreign exchange forwards embody the changes in Yen-LIBOR, and transmit those changes to Euroyen TIBOR, arbitrage is effectively prevented from happening between Yen-LIBOR and TIBOR. Otherwise, there would be opportunities for arbitrage between Yen-LIBOR rates and foreign exchange forwards and/or Euroyen TIBOR rates and foreign exchange forwards.

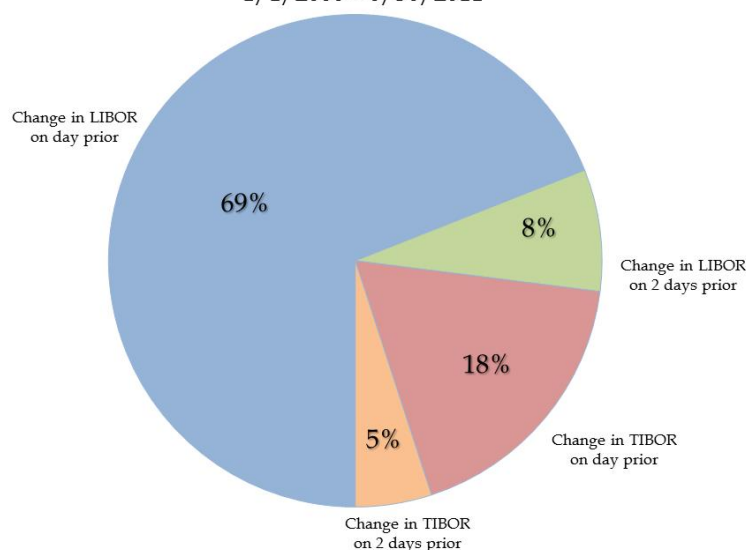
845. Plaintiff's economic analyses show that price discovery in the Euroyen market begins with the daily setting of Yen-LIBOR such that movements in Yen-LIBOR, specifically the prior day's Yen-LIBOR rate fix, impact changes in the following day's Euroyen TIBOR

fix. As a result, the reporting of false and inaccurate Yen-LIBOR rates can (and did) cause artificial Euroyen TIBOR rates and artificial Euroyen TIBOR futures prices during the Class Period. Euroyen TIBOR futures are the principal mechanism for active trading of Yen money market futures, for investment and hedging purposes such that any Yen-LIBOR reporting bank would know that a false Yen-LIBOR rate fix would impact Euroyen TIBOR futures prices. TIBOR futures (and TIBOR) themselves are seamless to the Yen-LIBOR fixing rates for the reasons stated (Yen-LIBOR is the dominant rate).

846. Figure 22 below demonstrates that changes in the prior day's Three-month Yen-LIBOR fix impacts by 69% the change in the next day's Euroyen TIBOR rate.

FIGURE 22

Contribution of Past Changes in 3 Month EuroYen TIBOR and Yen LIBOR to Current EuroYen TIBOR given Last EuroYen TIBOR
1/1/2006-- 6/30/2011



Data Source: Bloomberg.

Notes: This decomposition is based on an econometric model in which the change in the 3 Month EuroYen TIBOR on current day (from day t-1 to day t) is explained as a function of past changes in the LIBOR on the day prior (from t-2 to t-1) and on 2 days prior (from t-3 to t-2), and also as a function of past changes in the 3 Month EuroYen TIBOR on day prior (from t-2 to t-1) and on 2 days prior (from t-3 to t-2).

847. Yen-LIBOR is set during hours that U.S. Dollar and Euro interest rate futures are also trading. Far more banks, and from many more countries, fix their funding rates during Yen-LIBOR hours than during Euroyen TIBOR hours and since more banks and other financial institutions that deal in many currencies set their effective rates during the Yen-LIBOR fix (when a majority of their home markets are open and when the largest volume of transactions occur), Yen-LIBOR is effectively set at that time. Euroyen TIBOR then reflects those changes after it opens.

848. Besides the dominance of interbank rate setting, London and New York dominate currency trading in the U.S. dollar, Euro and Japanese yen; foreign exchange forward rates are effectively set on Japanese yen in London trading hours when Yen-LIBOR is set (and are derived from Yen-LIBOR). As a result of the dominant volumes of trading in Yen foreign exchange forwards, interbank interest rates and money markets during the London/New York market hours, Yen-LIBOR is the dominant rate, and effectively leads and predicts Euroyen TIBOR.

VIII. Independent Analyses Demonstrate That Euroyen TIBOR and Yen-LIBOR Were Artificial During The Class Period

849. Plaintiff's analyses demonstrate that Euroyen TIBOR and Yen-LIBOR were artificial throughout the Class Period.

A. Euroyen TIBOR and Yen-LIBOR Diverged Dramatically From their Historical Relationship with the Euroyen Deposit Rate

850. Throughout the Class Period, Euroyen TIBOR and Yen-LIBOR diverged dramatically from their historical relationship with the Euroyen Deposit Rate (the "EYDR").

851. The EYDR is comprised of quotes for bids and asks of financial institutions seeking to transact in the three-month Euroyen market. The EYDR is calculated on a daily basis by Bloomberg. Bloomberg collects actual transactions in three-month Euroyen by a group of

financial institutions, including banks and brokerages. Throughout the Class Period, Bloomberg published on a daily basis the lowest composite EYDR ask rate offered by active, contributing banks as well as a composite EYDR bid rate which is the highest bid rate offered by active, contributing banks. Bloomberg also published the mid-point between the composite ask and composite bid rates.

852. The EYDR is similar to Euroyen TIBOR and Yen-LIBOR except that the set of participating financial institutions is larger than the number of banks participating on the Euroyen TIBOR and Yen-LIBOR panels. Important market and financial fundamentals, such as day-to-day changes in monetary policy, market risk and interest rates, as well as risk factors facing the contributing banks should (absent manipulation) be reflected similarly in Euroyen TIBOR, Yen-LIBOR and the EYDR, and therefore not cause the historical relationship between these rates to diverge. Significant de-linkages in the historical relationship between Euroyen TIBOR, Yen-LIBOR and the EYDR (as demonstrated in Figures 23 through 26 below) during the Class Period strongly indicates that Euroyen TIBOR and Yen-LIBOR rates were artificial.

853. Figures 23 and 24 below show the relationship, including spread relationship, between Euroyen TIBOR and the EYDR for the period of January 2003 through June 2012.³⁴⁵

854. As demonstrated therein, before the start of the Class Period, between January 2003 and December 2005, the Euroyen TIBOR and the EYDR moved closely together with Euroyen TIBOR remaining slightly higher than the EYDR, causing the Euroyen TIBOR/EYDR spread to be slightly positive. In particular, during the 36-month period of January 2003 through December 2005, the average spread of Euroyen TIBOR with respect to the EYDR was a positive 0.0940.

³⁴⁵ In Figure 24, the spread is calculated as the three-month Euroyen TIBOR minus the three-month EYDR.

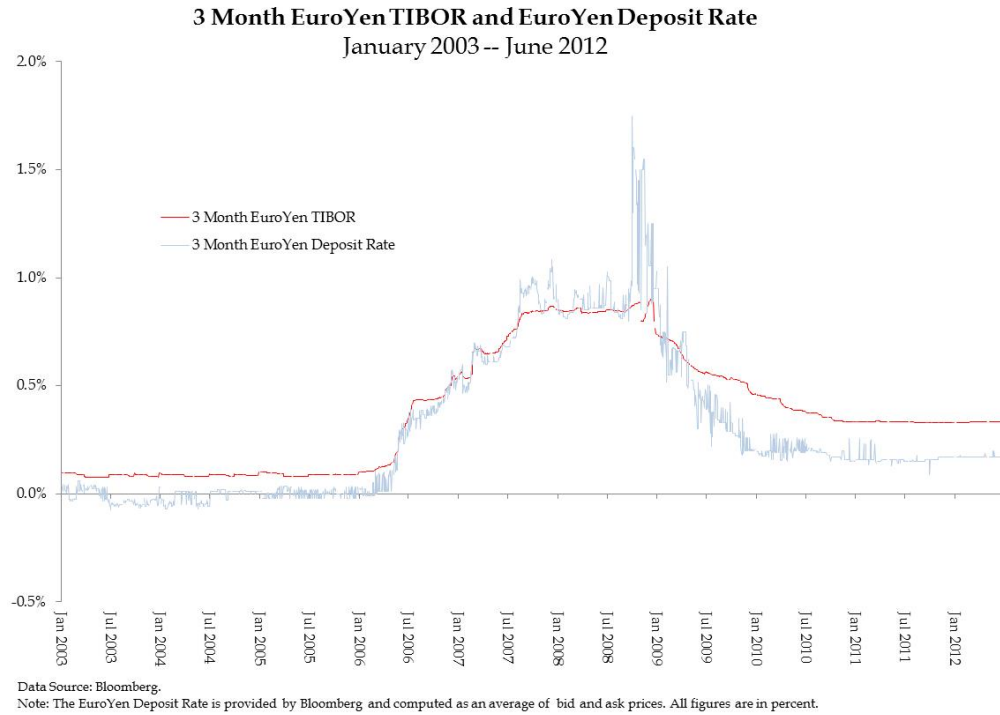
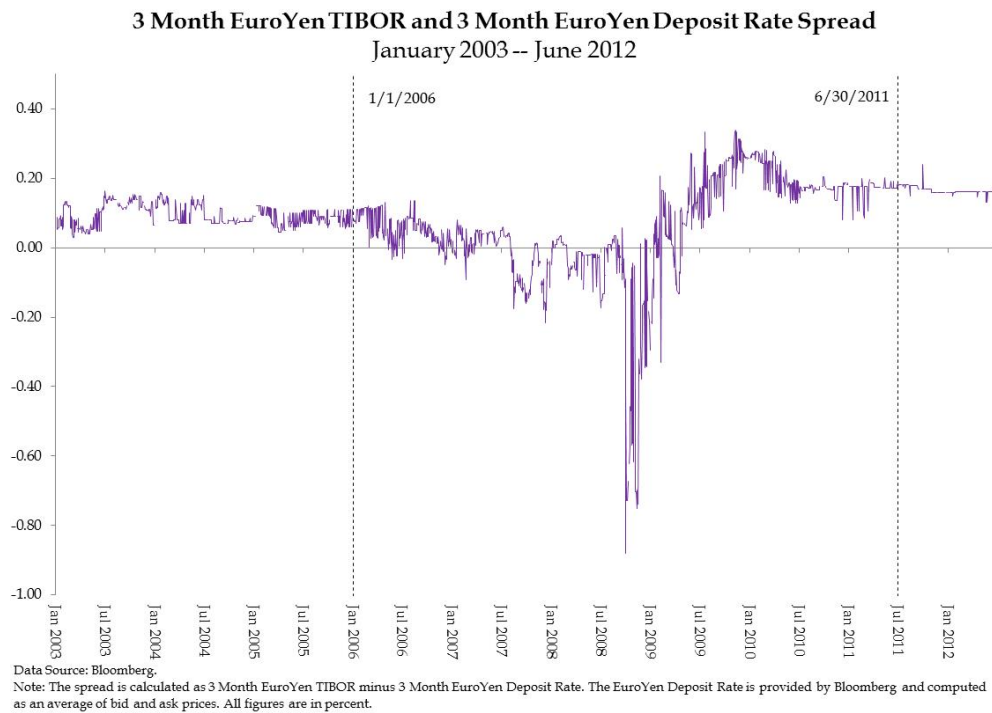
855. Early on in the Class Period, this historical relationship starts to fracture as EYDR begins to increase at a much higher rate than Euroyen TIBOR thereby causing a collapse and eventual inversion of the spread between Euroyen TIBOR and the EYDR (*i.e.*, the spread turns negative as Euroyen TIBOR becomes higher than the EYDR). By July 3, 2006 the Euroyen TIBOR/EYDR spread stood at negative -0.031, and by February 21, 2007 the spread reached -0.092.

856. Further into the Class Period, the negative (inverted) spread between Euroyen TIBOR and the EYDR becomes larger and stays negative (inverted) until the end of April 2009, with a period of extraordinarily negative (inverted) spreads during the period of July 2008 through April 2009. In particular, by December 11, 2007, the Euroyen TIBOR/EYDR spread had decreased to -0.216. An even lower point was reached on October 2, 2008, when the Euroyen TIBOR/EYDR spread reaches -0.879.

857. Further, from January 3, 2003 through December 31, 2005, there were 713 days with both a Euroyen TIBOR fix and an EYDR fix, and on no days was the spread negative during this time period. In contrast, and strongly evidencing Euroyen TIBOR artificiality, from January 1, 2006 through April 30, 2009, there were 796 days total of which 334 days (42.0%) had a negative spread. Further, from January 1, 2006 to April 30, 2009, there were 730 days out of the 796 days with spreads below the pre-Class Period historical average spread of 0.0940 (or 91.7% of the days).

858. Following April 2009, and continuing through to the end of the Class Period, the relationship between Euroyen TIBOR and the EYDR remained delinked from its pre-Class Period historical relationship, thereby evidencing Euroyen TIBOR artificiality. For example, from May 1, 2009 through June 30, 2011, there were 515 days with data available, 493 of which

saw a spread greater than the Euroyen TIBOR/EYDR pre-Class Period historical spread average of 0.0940 (or 95.7% of the days). Further, on November 10, 2009, the Euroyen TIBOR/EYDR spread reached as high as 0.338, and on July 21, 2009, it reached as high as 0.335.

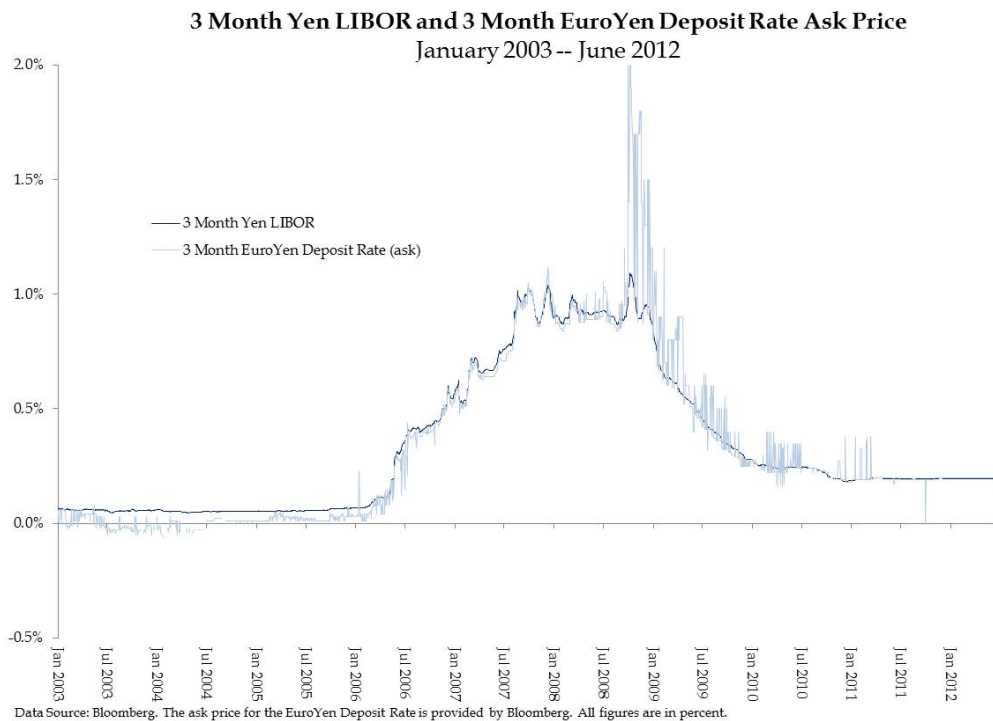
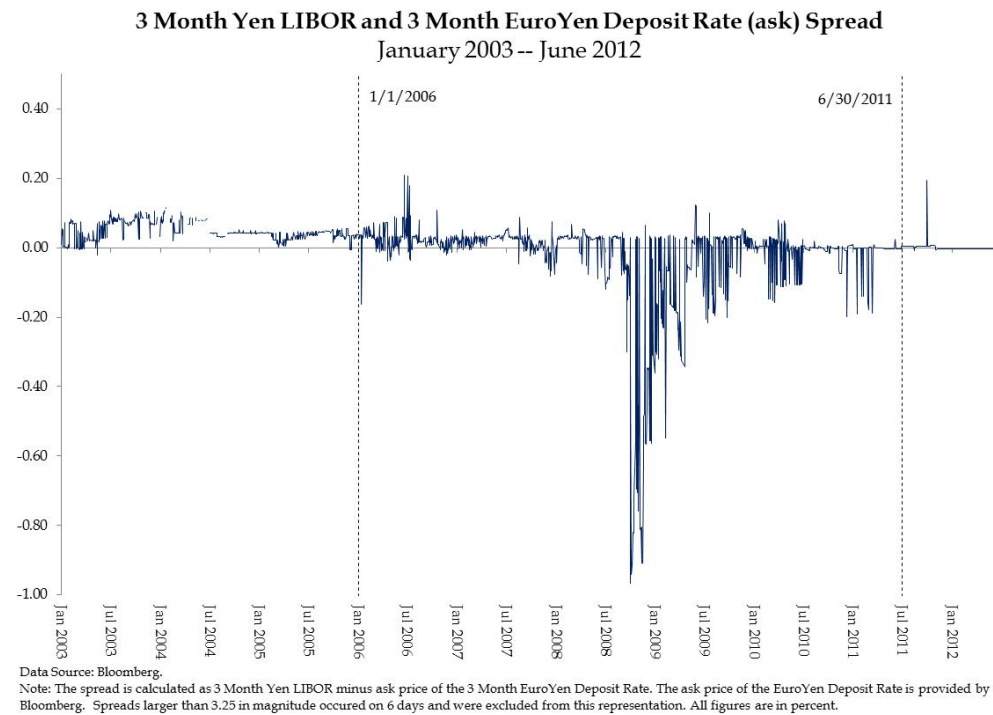
FIGURE 23**FIGURE 24**

859. Similar breakdowns in the historical spread relationship between Yen-LIBOR and the EYDR occurred during the Class Period. Figures 25 and 26 below show the relationship, including spread relationship, between Yen-LIBOR and the EYDR for the period of January 2003 through June 2012.³⁴⁶

860. As demonstrated therein, from January 2003 through December 2005, Yen-LIBOR and the EYDR moved closely together with Yen-LIBOR remaining consistently and slightly higher than the EYDR, causing the Yen-LIBOR/EYDR spread to be slightly positive. The average spread of Yen-LIBOR with respect to the EYDR ask rate for the 36 months prior to the Class Period (January 3, 2003 to December 31, 2005) was a positive 0.0480. During this pre-Class Period, there were 698 days of Yen-LIBOR submissions with EYDR ask quotes available. On only 22 days out of 698 days (or 3.2%) did a slightly negative spread between Yen-LIBOR and EYDR exists.

861. As demonstrated in Figures 25 and 26 below, by the start of the Class Period, the historical relationship between Yen-LIBOR and the EYDR began to change. Further into the Class Period, the relationship became further materially de-linked, providing strong evidence of artificiality. For example, on December 11, 2007 the Yen-LIBOR/EYDR spread was -0.081; on October 2, 2008 it was -0.968; on July 14, 2009 it was -0.216, and on June 1, 2010 it was -0.108, or more than 100 basis points negative (and far from the historical slightly positive Yen-LIBOR/EYDR average spread of 0.0480 that existed during the 36 months preceding the Class Period).

³⁴⁶ In Figure 26, the spread is calculated as follows: the spread equals the 3 Month Yen-LIBOR minus the 3 Month EYDR.

FIGURE 25**FIGURE 26**

B. Analyses of the Defendant Banks' Euroyen TIBOR and/or Yen-LIBOR Quotes Submitted During the Class Period, as Compared to the then Prevailing EYDR, Further Demonstrates Artificiality

1. Euroyen TIBOR

862. Figure 27 below presents examples of quotes submitted by Defendant Euroyen TIBOR panel banks that were significantly lower than the-then prevailing EYDR, often by 75 basis points, and on certain instances nearly half the EYDR rate, further supporting Euroyen TIBOR artificiality during the Class Period.

863. For example, as illustrated in Figure 27, below, on October 2, 2008, Defendant Sumitomo Trust & Banking submitted a Euroyen TIBOR quote of 0.85, which was respectively lower than the prevailing EYDR of 1.75 by -0.90. On November 11, 2008, Defendants Bank of Tokyo-Mitsubishi and Bank of Yokohama submitted Euroyen TIBOR quotes of 0.77, 0.78, and 0.78, which were respectively lower than the prevailing EYDR of 1.55 by -0.78 and -0.77. On November 12, 2008, Defendant Deutsche submitted a Euroyen TIBOR quote of 0.85 which was lower than the prevailing EYDR of 1.55 by -0.70. On November 17, 2008, Defendants JPMorgan and UBS submitted Euroyen TIBOR quotes of 0.82 and 0.81, which were respectively lower than the EYDR of 1.55 by -0.73 and -0.74. Each of the foregoing rate submissions resulted in negative spreads which diverged materially from the historical, pre-Class Period positive spread of 0.0940 between the Euroyen TIBOR and EYDR.

FIGURE 27**3 Month EuroYen TIBOR Quotes, EuroYen Deposit Rate and Associated Spread for Each Bank on Selected Days**

	10/2/2008			11/11/2008			11/12/2008			11/14/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Bank of Tokyo-Mitsubishi	0.87	1.75	-0.88	0.77	1.55	-0.78	0.78	1.55	-0.77	0.80	1.55	-0.75
	10/2/2008			11/11/2008			11/12/2008			11/17/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Bank of Yokohama	0.86	1.75	-0.89	0.78	1.55	-0.77	0.78	1.55	-0.77	0.80	1.55	-0.75
	10/2/2008			10/8/2008			11/11/2008			11/12/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Chuo Mitsui Trust	0.88	1.75	-0.87	0.88	1.60	-0.72	0.81	1.55	-0.74	0.81	1.55	-0.74
	6/21/2010			7/6/2010			2/1/2011			2/8/2011		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Citibank	0.37	0.26	0.12	0.34	0.23	0.11	0.32	0.23	0.09	0.32	0.23	0.09
	10/2/2008			10/7/2008			10/9/2008			11/12/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Deutsche Bank	0.87	1.75	-0.88	0.87	1.60	-0.73	0.87	1.60	-0.73	0.85	1.55	-0.70
	10/2/2008			10/9/2008			11/14/2008			11/17/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
JP Morgan Chase	0.90	1.75	-0.85	0.90	1.60	-0.70	0.83	1.55	-0.72	0.82	1.55	-0.73
	10/2/2008			10/6/2008			10/9/2008			11/11/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Mitsubishi UFJ Trust	0.86	1.75	-0.89	0.86	1.60	-0.74	0.86	1.60	-0.74	0.80	1.55	-0.75
	10/2/2008			11/11/2008			11/12/2008			11/14/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Mizuho Bank	0.86	1.75	-0.89	0.78	1.55	-0.77	0.78	1.55	-0.77	0.79	1.55	-0.76
	10/2/2008			11/11/2008			11/12/2008			11/17/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Mizuho Corporate Bank	0.87	1.75	-0.88	0.79	1.55	-0.76	0.79	1.55	-0.76	0.80	1.55	-0.75
	10/2/2008			10/7/2008			10/9/2008			11/12/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Mizuho Trust & Banking	0.81	1.75	-0.94	0.83	1.60	-0.77	0.80	1.60	-0.80	0.81	1.55	-0.74
	10/2/2008			10/6/2008			11/11/2008			11/17/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Norinchukin Bank	0.85	1.75	-0.90	0.85	1.60	-0.75	0.80	1.55	-0.75	0.80	1.55	-0.75
	10/2/2008			10/7/2008			11/11/2008			11/14/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Resona Bank	0.85	1.75	-0.90	0.85	1.60	-0.75	0.77	1.55	-0.78	0.79	1.55	-0.76
	6/1/2010			2/1/2011			2/8/2011			5/22/2012		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Royal Bank of Scotland	0.36	0.26	0.10	0.31	0.23	0.08	0.31	0.23	0.08	0.30	0.20	0.10
	10/2/2008			10/8/2008			11/12/2008			11/14/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Shinkin Central Bank	0.91	1.75	-0.84	0.90	1.60	-0.70	0.84	1.55	-0.71	0.84	1.55	-0.71
	10/2/2008			10/6/2008			11/12/2008			11/17/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Shoko Chukin Bank	0.90	1.75	-0.85	0.88	1.60	-0.72	0.78	1.55	-0.77	0.80	1.55	-0.75
	10/2/2008			11/11/2008			11/12/2008			11/14/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Sumitomo Mitsui Banking Corp	0.88	1.75	-0.87	0.79	1.55	-0.76	0.79	1.55	-0.76	0.81	1.55	-0.74
	10/2/2008			10/8/2008			11/12/2008			11/17/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
Sumitomo Trust & Banking	0.85	1.75	-0.90	0.86	1.60	-0.74	0.79	1.55	-0.76	0.79	1.55	-0.76
	10/2/2008			11/11/2008			11/12/2008			11/17/2008		
	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread	TIBOR	EYDR	Spread
UBS AG	0.94	1.75	-0.81	0.80	1.55	-0.75	0.79	1.55	-0.76	0.81	1.55	-0.74

Data Source: Bloomberg

Note: "TIBOR" denotes the bank's 3 month EuroYen TIBOR quote for that day, and "EYDR" denotes the 3 month Yen EuroYen Deposit Rate. The spread is calculated as 3 Month EuroYen TIBOR quote minus the 3 Month EuroYen Deposit Rate. The EuroYen Deposit Rate is provided by Bloomberg and computed as an average of bid and ask prices. All figures are in percentage points.

864. Figures 28 through 43 below, measure the spread between the EYDR and each Euroyen TIBOR Contributor Panel Bank's submitted Euroyen TIBOR quote to the JBA during the period from January 2003 through June 2012. As shown in Figures 28 through 43, beginning in 2009, the Euroyen TIBOR quotes as compared to the EYDR, on average, became significantly higher, thereby causing significant increases in the Euroyen/TIBOR spread (and resulting in spreads well above the historical Euroyen/TIBOR/EYDR spreads that existed in the pre-Class Period).

FIGURE 28

Average Spreads of Banks' EuroYen TIBOR Quotes to the EuroYen Deposit Rate

	1/3/2003 -- 12/31/2005	1/1/2006 -- 4/30/2009	5/1/2009 -- 6/30/2011
<u>Bank of Tokyo-Mitsubishi</u>	0.0931	-0.0307	0.1704
<u>Bank of Yokohama</u>	--	-0.0994	0.1857
<u>Chuo Mitsui Trust</u>	0.0800	-0.0575	0.2081
<u>Citibank</u>	--	--	--
<u>Deutsche Bank</u>	--	-0.0931	0.1854
<u>JP Morgan Chase</u>	0.0553	-0.0216	0.0508
<u>Mitsubishi UFJ Trust</u>	0.0948	-0.0220	0.1922
<u>Mizuho Bank</u>	0.0943	-0.0293	0.1982
<u>Mizuho Corporate Bank</u>	0.0950	-0.0197	0.1969
<u>Mizuho Trust & Banking</u>	0.0945	-0.0421	0.1708
<u>Norinchukin Bank</u>	0.0870	-0.0252	0.1922
<u>Resona Bank</u>	0.0950	-0.0218	0.1989
<u>Royal Bank of Scotland</u>	--	--	0.1472
<u>Shinkin Central Bank</u>	0.0976	-0.0127	0.2000
<u>Shoko Chukin Bank</u>	0.0962	-0.0270	0.1937
<u>Sumitomo Mitsui Banking Corp</u>	0.0948	-0.0220	0.1973
<u>Sumitomo Trust & Banking</u>	0.0947	-0.0237	0.1935
<u>UBS AG</u>	0.0747	-0.0121	0.1873

Data Source: Bloomberg.

Notes: Underlined banks overlap across LIBOR & TIBOR panels. The 3 Month EuroYen Deposit Rate is provided by Bloomberg and is the midpoint of the bid and ask quotes. All figures are in percentage points.

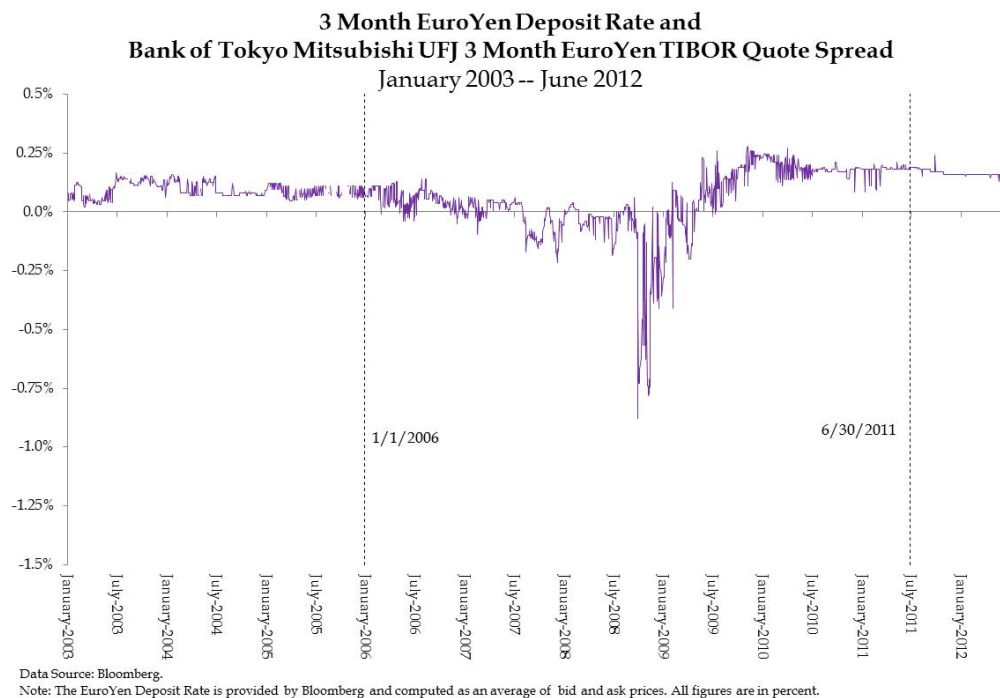
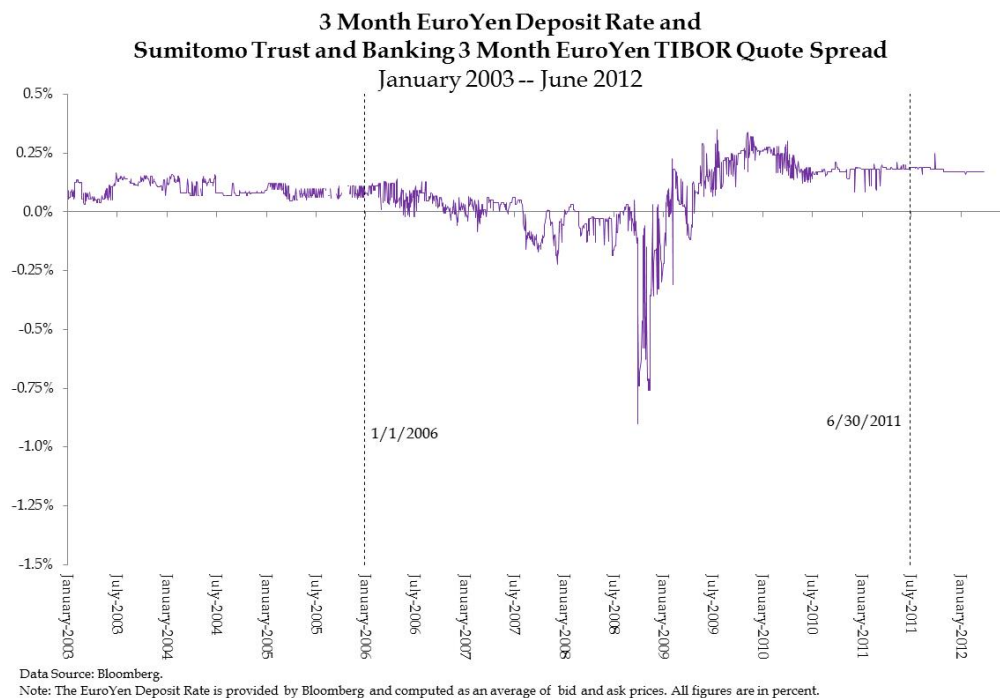
FIGURE 29**FIGURE 30**

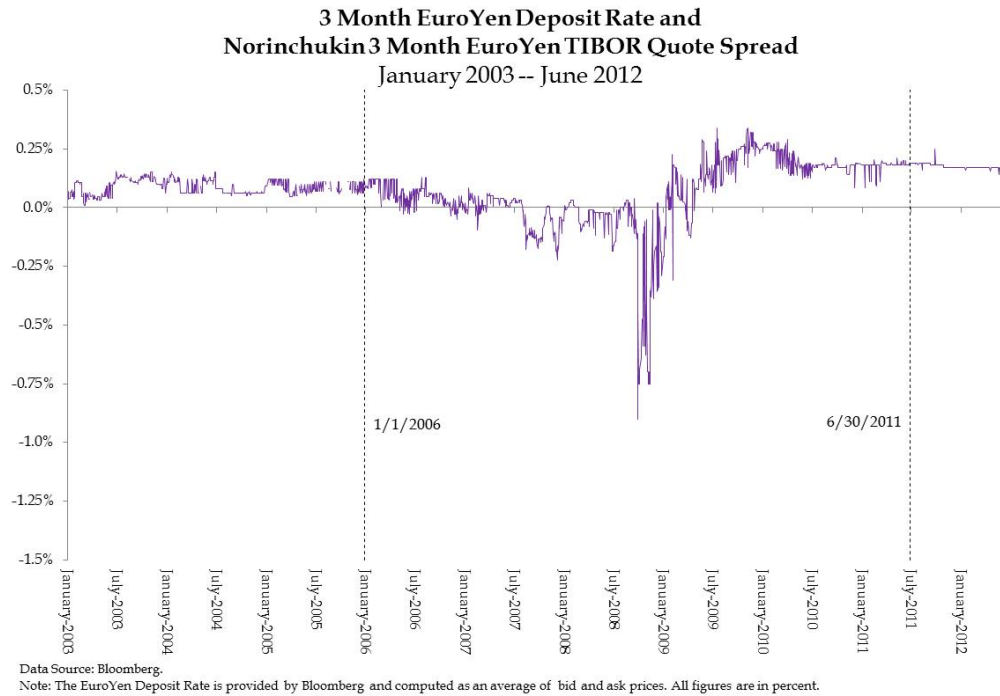
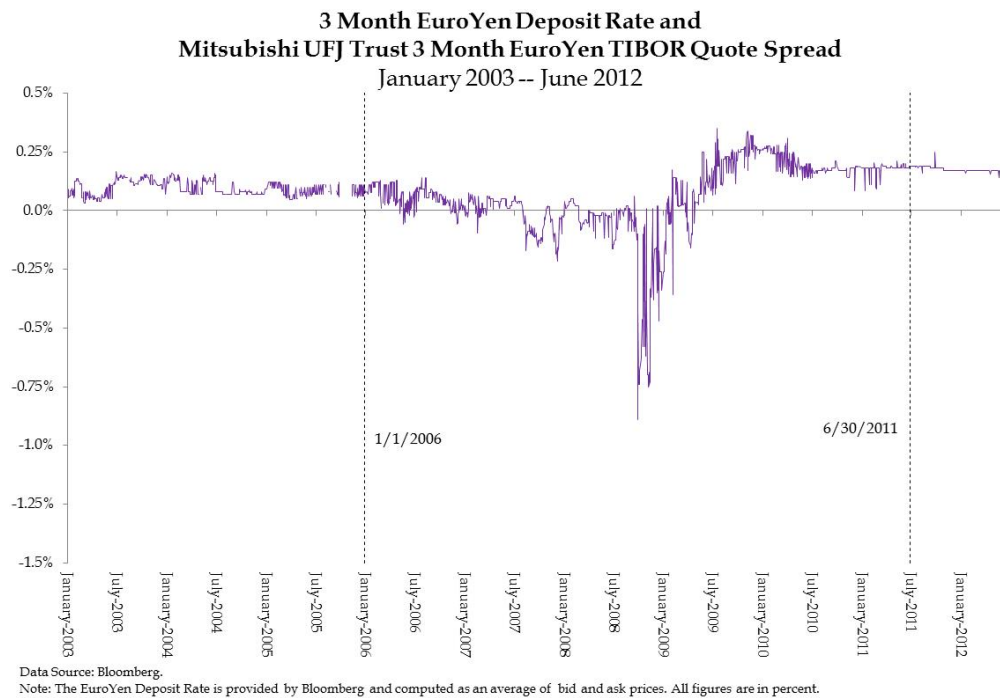
FIGURE 31**FIGURE 32**

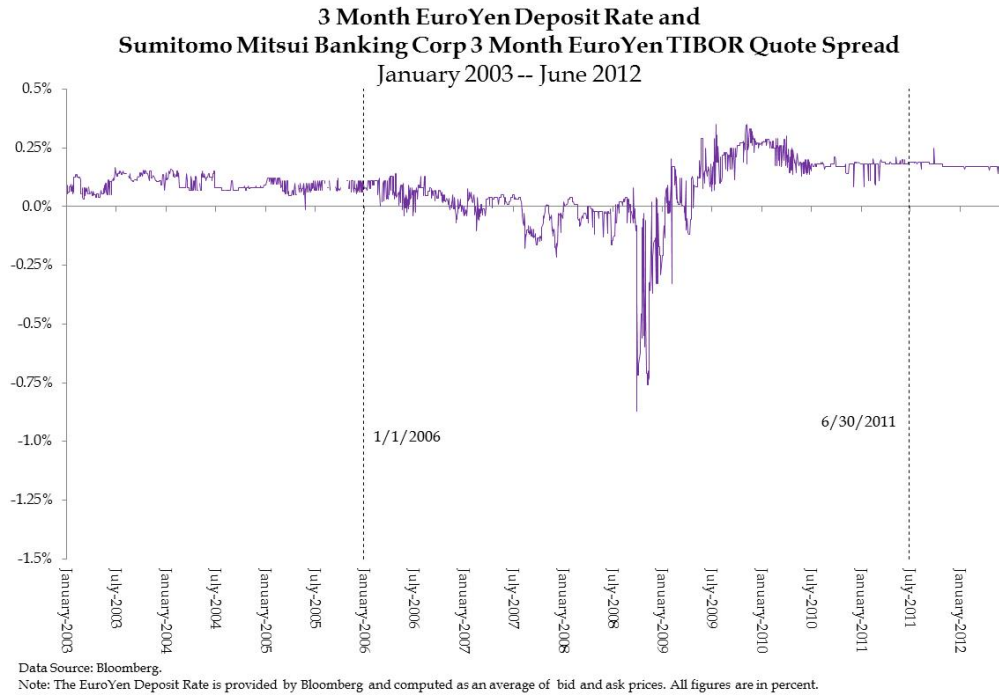
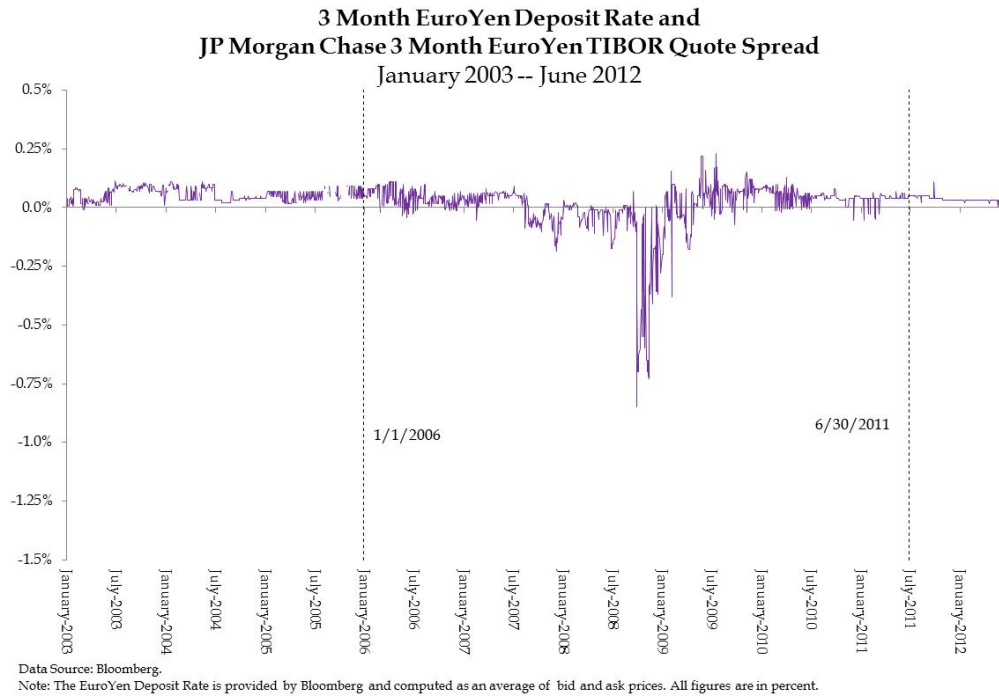
FIGURE 33**FIGURE 34**

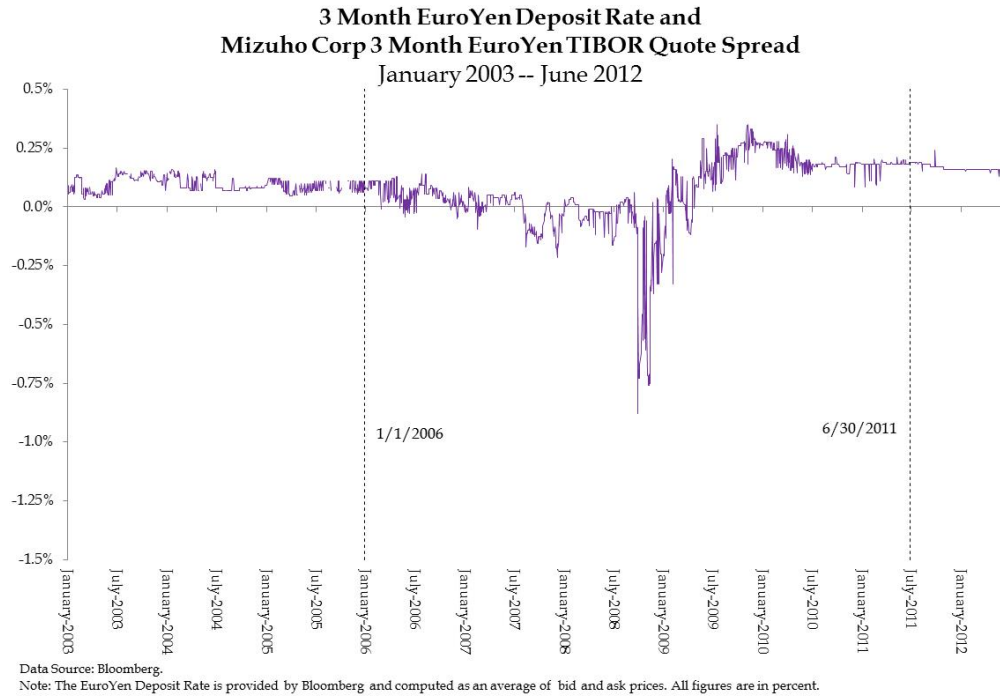
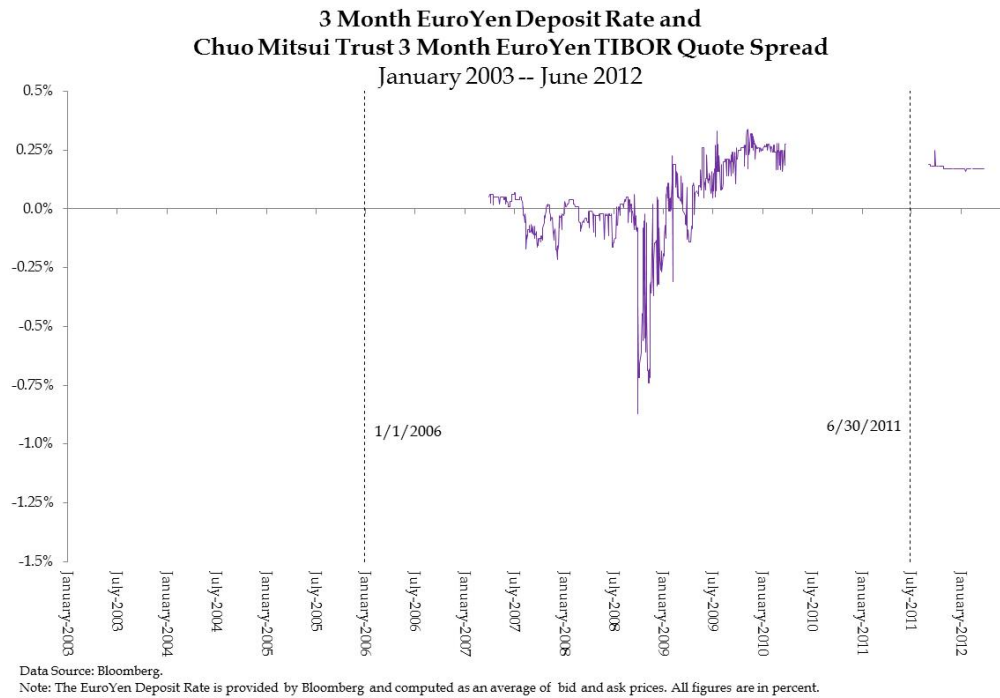
FIGURE 35**FIGURE 36**

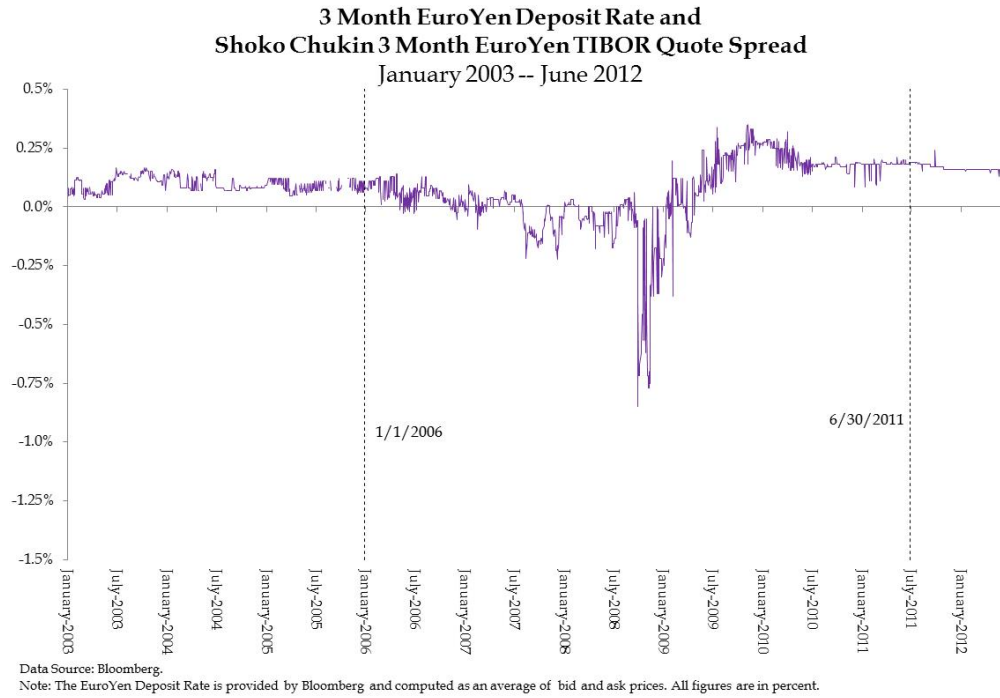
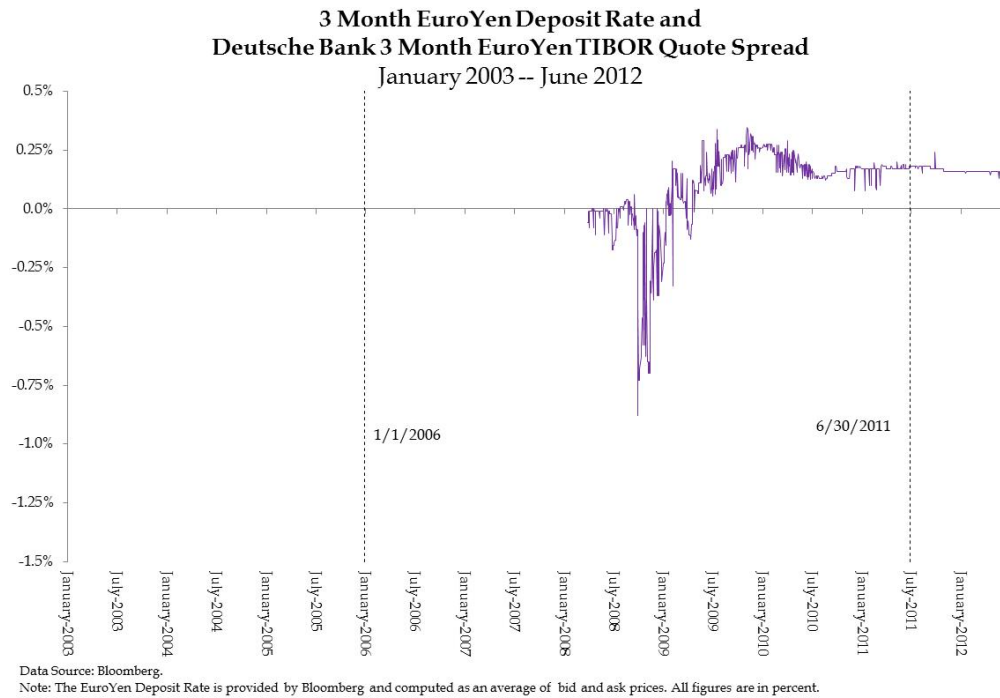
FIGURE 37**FIGURE 38**

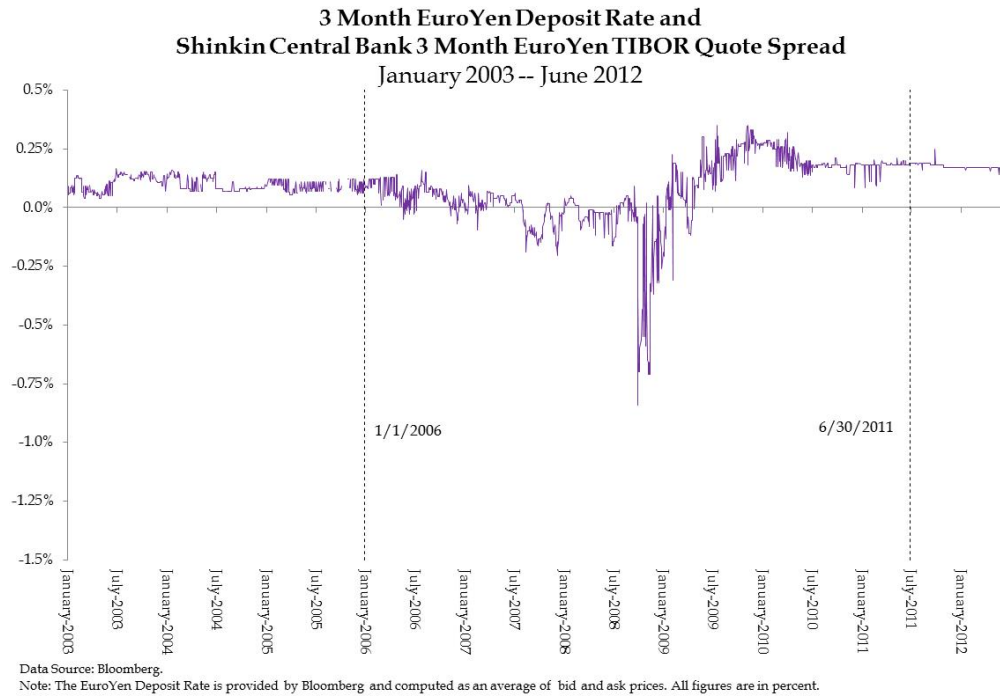
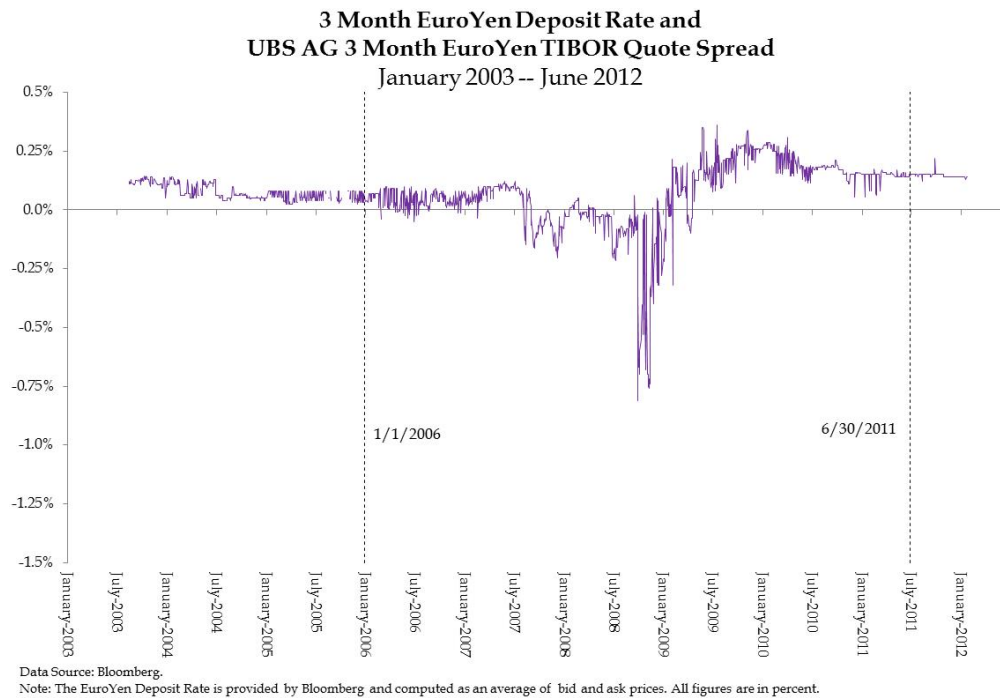
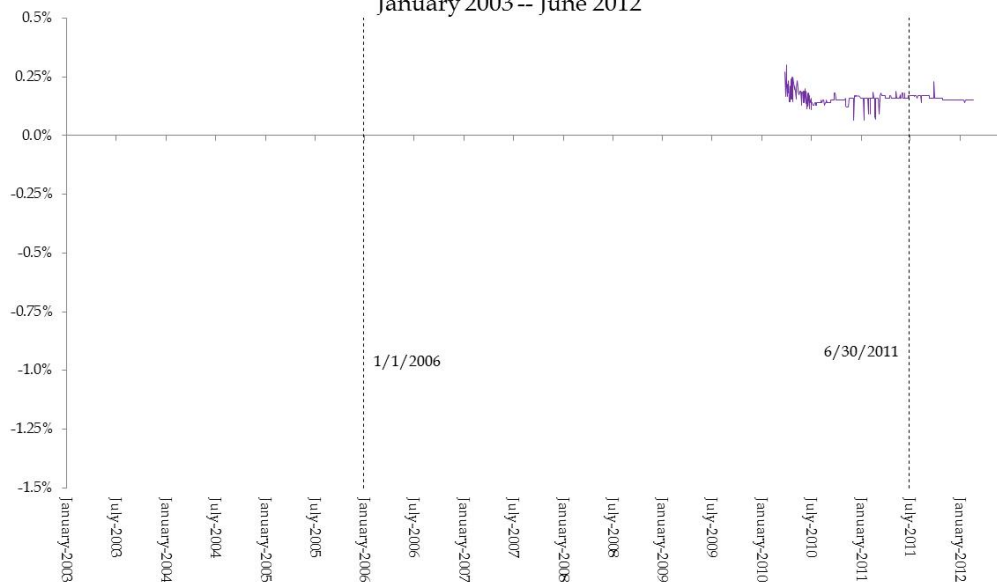
FIGURE 39**FIGURE 40**

FIGURE 41

**3 Month EuroYen Deposit Rate and
Citibank 3 Month EuroYen TIBOR Quote Spread**
January 2003 -- June 2012

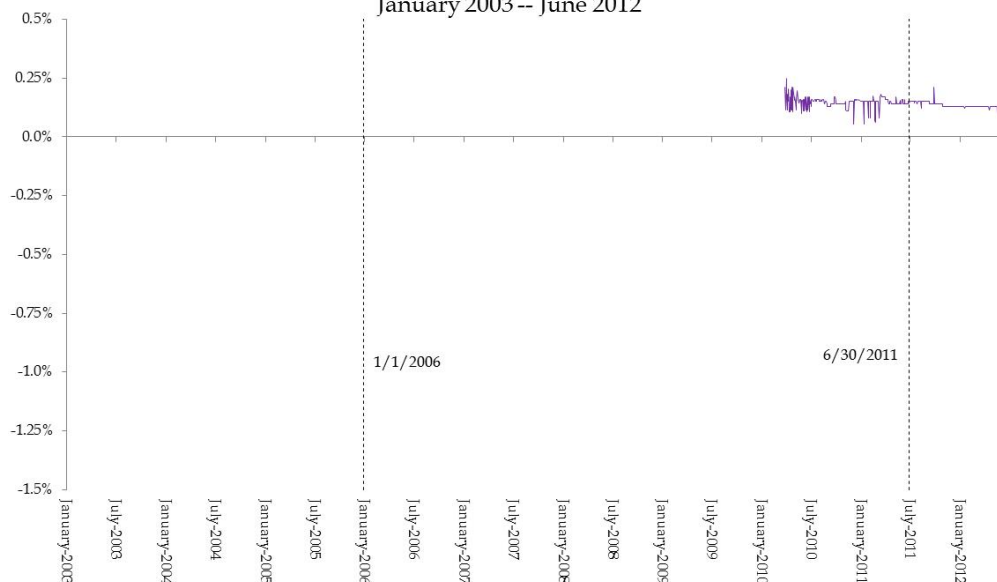


Data Source: Bloomberg.

Note: The EuroYen Deposit Rate is provided by Bloomberg and computed as an average of bid and ask prices. All figures are in percent.

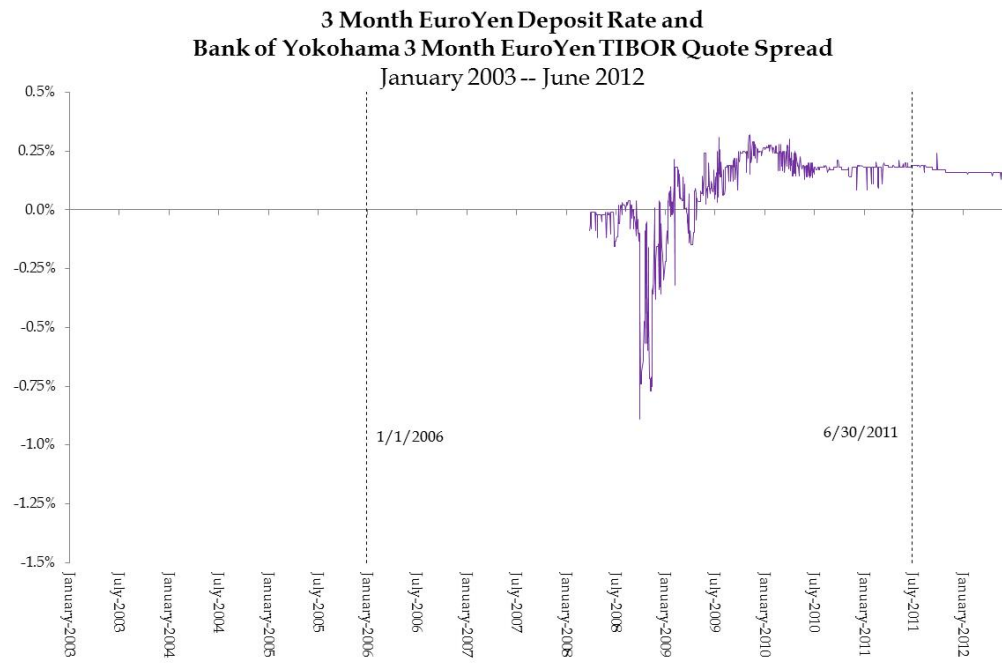
FIGURE 42

**3 Month EuroYen Deposit Rate and
Royal Bank of Scotland 3 Month EuroYen TIBOR Quote Spread**
January 2003 -- June 2012



Data Source: Bloomberg.

Note: The EuroYen Deposit Rate is provided by Bloomberg and computed as an average of bid and ask prices. All figures are in percent.

FIGURE 43

2. Yen-LIBOR

865. Figure 44 below presents examples of quotes submitted by Defendant Yen-LIBOR panel banks that were significantly lower than the prevailing EYDR, often by 75 basis points, and on certain instances more than 100 basis points (or a full percentage point) below the the-then prevailing EYDR, further supporting Yen-LIBOR artificiality during the Class Period.

866. For example, as illustrated in Figure 44 below, on October 8, 2008, Defendants Bank of Tokyo-Mitsubishi, Sumitomo Mitsui Banking Corp. and Norinchukin Bank submitted Yen-LIBOR quotes of 0.98, 0.99, and 0.97, which were respectively lower than the prevailing EYDR of 2.00 by -1.02, -1.01, and -1.03. On November 17, 2008, Defendants JPMorgan Chase, Deutsche Bank, and UBS all submitted a Yen-LIBOR quote of 0.85, three of the banks named in the Canadian Competition Bureau's Euroyen manipulation investigation, lower than the prevailing EYDR of 1.80 by -0.95. Deutsche Bank has since admitted to colluding with UBS trader Hayes to manipulate Yen-LIBOR. Each of the foregoing rate submissions resulted in negative spreads which diverged materially from the historical, pre-Class Period average positive spread of 0.0480 between Yen-LIBOR and the EYDR.

FIGURE 44**3 Month Yen LIBOR Quotes, EuroYen Deposit Rate (ask) and Associated Spread for Each Bank on Selected Days**

		10/8/2008			10/9/2008			10/10/2008			10/14/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Bank of America	Bank of America	0.98	2.00	-1.02	0.98	2.00	-1.02	1.00	1.90	-0.90	1.03	1.80	-0.77
		10/8/2008			10/10/2008			10/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Bank of Tokyo-Mitsubishi	Bank of Tokyo-Mitsubishi	0.98	2.00	-1.02	1.02	1.90	-0.88	1.02	1.80	-0.78	0.88	1.80	-0.92
		10/10/2008			10/14/2008			11/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Barclays	Barclays	1.25	1.90	-0.65	1.35	1.80	-0.45	1.14	1.80	-0.66	1.16	1.80	-0.64
		10/10/2008			11/11/2008			11/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Citibank	Citibank	1.15	1.90	-0.75	0.88	1.80	-0.92	0.89	1.80	-0.91	0.90	1.80	-0.90
		10/10/2008			10/14/2008			11/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Deutsche Bank	Deutsche Bank	1.03	1.90	-0.87	1.00	1.80	-0.80	0.85	1.80	-0.95	0.85	1.80	-0.95
		10/10/2008			10/14/2008			10/15/2008			10/16/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
HSBC	HSBC	1.14	1.90	-0.76	1.13	1.80	-0.67	1.12	1.80	-0.68	1.10	1.70	-0.60
		11/12/2008			11/13/2008			11/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
JP Morgan Chase	JP Morgan Chase	0.86	1.80	-0.94	0.86	1.70	-0.84	0.85	1.80	-0.95	0.85	1.80	-0.95
		11/12/2008			11/13/2008			11/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Lloyds	Lloyds Banking Group	0.90	1.80	-0.90	0.90	1.70	-0.80	0.91	1.80	-0.89	0.90	1.80	-0.90
		10/10/2008			10/14/2008			11/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Mizuho Corporate Bank	Mizuho Corporate Bank	1.07	1.90	-0.83	1.07	1.80	-0.73	0.88	1.80	-0.92	0.88	1.80	-0.92
		10/8/2008			10/10/2008			10/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Norinchukin Bank	Norinchukin Bank	0.97	2.00	-1.03	0.99	1.90	-0.91	0.99	1.80	-0.81	0.87	1.80	-0.93
		10/10/2008			10/14/2008			10/16/2008			10/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Rabobank	Rabobank	0.80	1.90	-1.10	0.80	1.80	-1.00	0.80	1.70	-0.90	0.80	1.70	-0.90
		10/10/2008			10/14/2008			11/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Royal Bank of Scotland	Royal Bank of Scotland	1.08	1.90	-0.82	1.06	1.80	-0.74	0.86	1.80	-0.94	0.86	1.80	-0.94
		10/8/2008			10/9/2008			10/14/2008			10/15/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Societe Generale	Societe Generale	1.25	2.00	-0.75	1.25	2.00	-0.75	1.20	1.80	-0.60	1.20	1.80	-0.60
		10/8/2008			10/9/2008			10/10/2008			10/14/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
Mitsui Sumitomo Banking Corp	Sumitomo Mitsui Banking Corp	0.99	2.00	-1.01	0.99	2.00	-1.01	1.02	1.90	-0.88	1.02	1.80	-0.78
		10/10/2008			10/14/2008			11/14/2008			11/17/2008		
		LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread	LIBOR	EY(Ask)	Spread
UBS AG	UBS AG	1.03	1.90	-0.87	1.03	1.80	-0.77	0.85	1.80	-0.95	0.85	1.80	-0.95

Data Source: Bloomberg

Note: "LIBOR" denotes the bank's 3 month Yen LIBOR quote for that day, and "EY(ask)" denotes the 3 month Yen EuroYen Deposit Rate ask. The spread is calculated as 3 Month Yen LIBOR quote minus ask price of the 3 Month EuroYen Deposit Rate. The ask price of the EuroYen Deposit Rate is provided by Bloomberg. All figures are in percentage points.

867. Figures 45 through 59 below, measure the spread between the EYDR and each Yen-LIBOR Defendant panel bank's submitted Yen-LIBOR quote to the BBA during the period from January 2003 through June 2012.

FIGURE 45

Average Spreads of Banks' Yen LIBOR Quotes to the EuroYen Deposit Rate (Ask Quote)

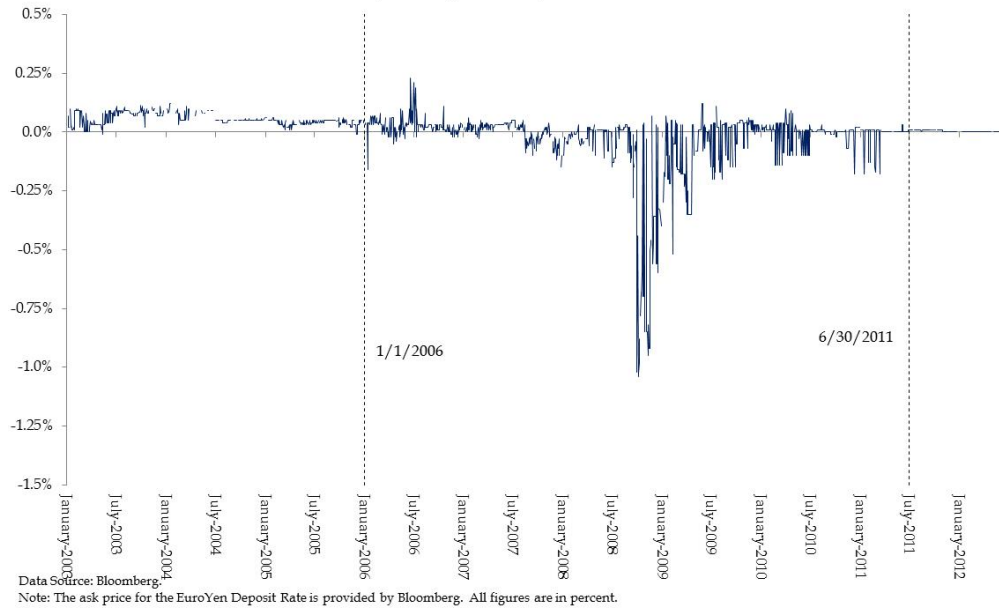
	1/3/2003 -- 12/31/2005	1/1/2006 -- 4/30/2009	5/1/2009 -- 6/30/2011
<u>Bank of America</u>	0.0403	-0.0288	-0.0009
<u>Bank of Tokyo-Mitsubishi</u>	0.0556	-0.0502	-0.0047
Barclays	0.0427	-0.0014	-0.0124
<u>Citibank</u>	0.0487	-0.0345	-0.0092
<u>Deutsche Bank</u>	0.0482	-0.0526	-0.0366
HSBC	0.0546	-0.0254	-0.0117
<u>JP Morgan Chase</u>	0.0370	-0.0428	-0.0152
<u>Lloyds Banking Group</u>	0.0158	-0.0284	-0.0083
<u>Mizuho Corporate Bank</u>	0.0655	-0.0349	-0.0036
<u>Norinchukin Bank</u>	0.0732	-0.0422	-0.0058
Rabobank	0.0365	-0.0378	-0.0311
<u>Royal Bank of Scotland</u>	-0.0046	-0.0504	-0.0182
Societe Generale	0.0384	-0.0053	-0.0156
<u>Sumitomo Mitsui Banking Corp</u>	0.0642	-0.0416	-0.0036
<u>UBS AG</u>	0.0429	-0.0514	-0.0196

Data Source: Bloomberg.

Notes: Underlined banks overlap across LIBOR & TIBOR panels. The 3 Month EuroYen Deposit Rate ask quote is provided by Bloomberg. All figures are in percentage points.

FIGURE 46

**3 Month EuroYen Deposit Rate Ask Price and
Bank of Tokyo Mitsubishi UFJ 3 Month Yen LIBOR Quote Spread**
January 2003 -- June 2012

**FIGURE 47**

**3 Month EuroYen Deposit Rate Ask Price and
Deutsche Bank 3 Month Yen LIBOR Quote Spread**
January 2003 -- June 2012

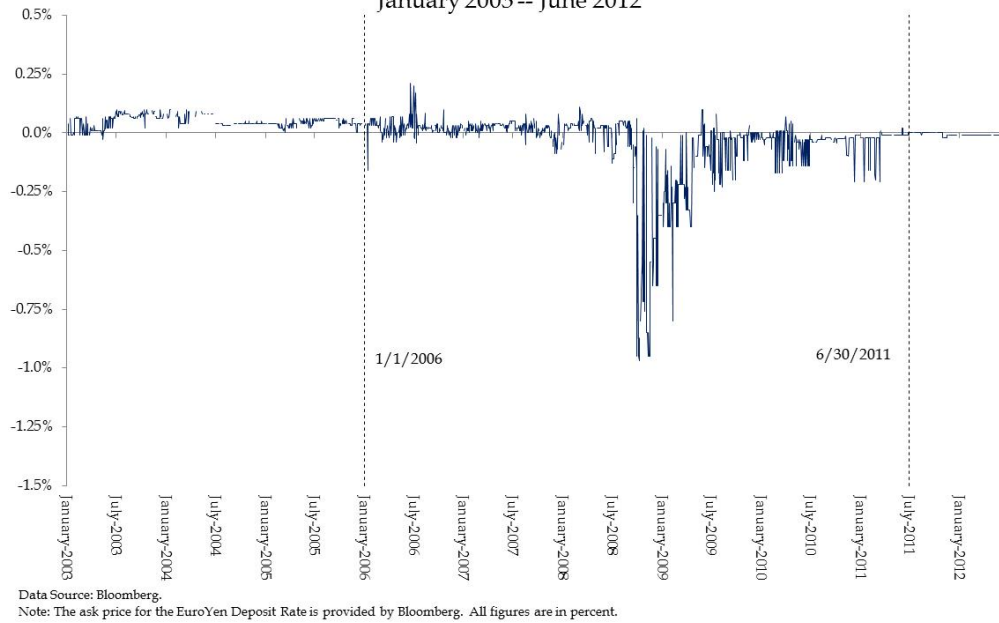


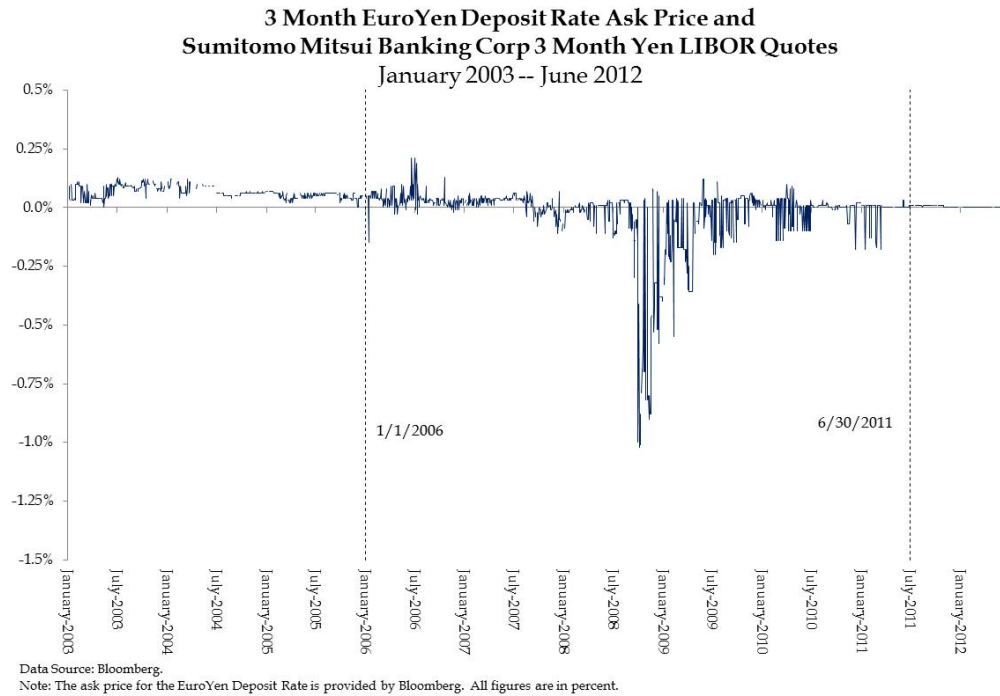
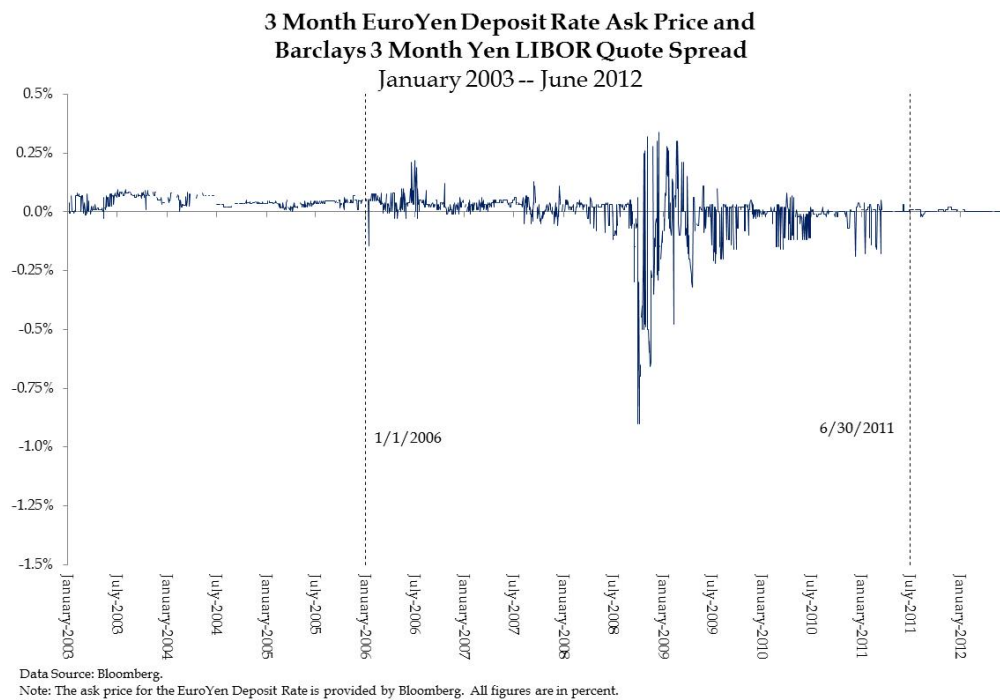
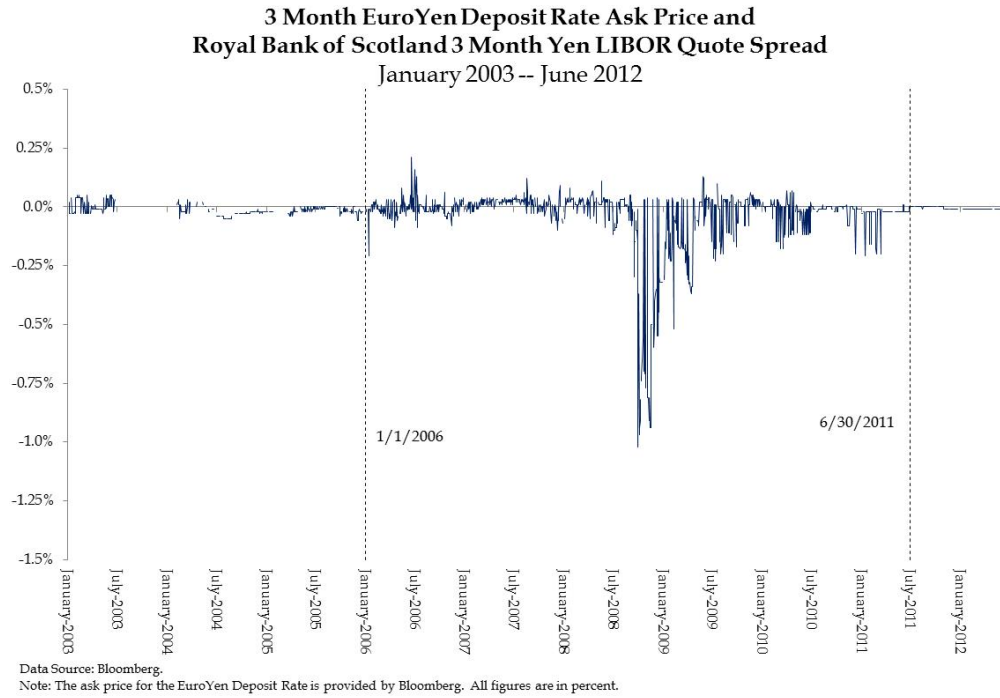
FIGURE 48**FIGURE 49**

FIGURE 50**FIGURE 51**